NERVOUS AND MENTAL DISEASE MONOGRAPH SERIES NO. 8

MENTAL MECHANISMS

BY

WILLIAM A. WHITE, M.D.

AUTHOR OF "OUTLINES OF PSYCHIATRY"

SUPERINTENDENT GOVERNMENT HOSPITAL FOR THE INSANE, WASHINGTON, D. C.; FIRST LIEUTENANT, MEDICAL RESERVE CORPS, UNITED STATES ARMY; PROFESSOR OF NERVOUS AND MENTAL DISEASES, GEORGETOWN UNIVERSITY, WASHINGTON, D. C.; PROFESSOR OF NERVOUS AND MENTAL DISEASES, GEORGE WASHINGTON UNIVERSITY, WASHINGTON, D. C.; AND LECTURER ON INSANITY, U. S. ARMY AND U. S. NAVY MEDICAL SCHOOLS

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PREFACE

The teacher becomes naturally the writer of books. Every man who tries to teach a subject inevitably comes to express himself in a way different from other teachers of the same subject, and different from the text-books. He is sure, sooner or later, to feel the need of a book as a medium of his own individual manner of expression. As the "Outlines of Psychiatry" (No. 1 of this series) came into existence as the result of a need which grew out of my teaching in the medical colleges, so this work is the result of a need growing out of my efforts to present certain principles in the field of psychopathology to the younger members of my staff. I trust it may find a wider usefulness in other similar institutions.

W. A. W.

Government Hospital for the Insane,
Washington, D. C.
June 15. 1911.

INTRODUCTION

A few words only by way of introduction so that the reader may be assisted to an understanding of the plan of this book. It is always helpful to get a bird's-eye view of a city one is about to explore, or to look at a field under the microscope first with a low-power objective, for purposes of general orientation, before examining the minute details with a lens of higher magnification.

In the first place the book does not pretend to an exhaustive setting forth of all the principles underlying psychopathology, but only to an explanation and emphasis of certain fundamentals which appear to me absolutely essential to an understanding of the problems of present-day psychiatry.

The first chapter is devoted to a consideration of the building up of the structure of consciousness, the organization and operation of the forces at work and somewhat of the laws of their interplay. The second chapter accounts, in a general way, for the content of consciousness, the nature of that content, and gives a general account of certain types of reaction. The third chapter deals somewhat more specifically with the content of consciousness as illustrated by dreams, the content of the psychoses, and certain phenomena of the content of the race consciousness—folklore. The fourth chapter is devoted to a definition of the complex and an explanation of its effects both in the normal mind and in the psychoses. Chapter five carries out the principles elucidated in the preceding chapters in the setting forth of the problem of hysteria, while in chapter six the principles are applied to an explanation of the problem of art, both from the standpoint of the creation of art and the nature of its appeal. Chapter seven sets forth the methods by which, in accordance with the principles thus far laid down, it is possible to attain to a knowledge of the content of consciousness, and discusses certain therapeutic issues; while the final chapter, chapter eight, is a general discussion of the bearing of all that precedes upon the problems of preventive medicine, with some suggestions as to methods of procedure.

MENTAL MECHANISMS

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CHAPTER I

SOME CONSIDERATIONS ON THE CONSTITUTION OF CONSCIOUSNESS—RELATION OF MENTAL AND PHYSICAL

The human mind is the crowning attainment of organic evolution and as evolution proceeds from the simple to the complex it, and its physical substratum the human brain, are coördinately the most complex of the results of this process.

Notwithstanding the fact that its placement in the scheme of things of necessity implies its complexity, it is remarkable how few people consider the mind and its phenomena as requiring any special consideration in order that they be understood. Either the most patent and obvious of explanations of mental facts are deemed sufficient or else, mirabile dictu, no explanation at all is conceived to be required.[1] We laugh "because we are happy"—nothing simpler—and if in passing along the street the number of a certain house is perceived and remains fixed in our memory why "it just happened so" and "there's an end on't."

Undoubtedly one of the great reasons for this naïve attitude towards the phenomena of mind is due to their familiarity. It is the unusual that attracts our attention and demands an explanation—not the every-day occurrence that confronts us at each moment of the day's work. A display of the northern lights invariably brings out exclamations of admiration and wonder, but no one stops for a moment to marvel at the phenomenon of human speech.

It is this strange state of lack of appreciation of the complexi-

[1] Ernest Jones: Rationalization in Every Day Life. Jour. of Ab. Psych., August–September, 1908.

ties of the mind and of the laws governing its actions that is responsible for much that is crude in psychological conceptions. It naturally becomes of the first importance for one entering upon the study of psychiatry—abnormal psychology—to get rid of such preconceived crudities if he has them or if not to start at any rate with a comprehensive grasp of what mind means in the large.

We can only arrive at an understanding of the meaning of mind by considering it at once from the biological and evolutional view points.

The simple organisms, the unicellular organisms, have problems of function that do not require the service of a nervous system at all. Their structure is relatively simple and the processes of ingestion, digestion and egestion are participated in by the body as a whole. The environment consists of but two kinds of forces—those attracting and those repelling, and the stimuli from them are conveyed at once by the protoplasmic mass without the necessity of special paths.

As we proceed from this simple state of affairs, through the animal series, we advance by successive steps to structures that are progressively more and more complex and which correspondingly come into more and more complex relations with their environment.

With this gradual increase in the complexity of both structure and the relations with the environment there goes hand in hand an increase in the complexity of the nervous system and of that part of the nervous system in which we are primarily interested—the brain. The particular thing to which attention is invited by this survey is that at some point in this scheme of things consciousness makes its appearance.

What consciousness is no one can say. It is a something about which all of us have certain immediate experiences and information but it is one of those fundamental, inscrutable facts of nature that defies definition.

For our purposes it is unnecessary to discuss its nature or its

origin further than to call attention to the fact that its advent appears to be associated with a relatively complex and advanced stage in evolution. We shall have occasion again to point out the apparent relation between the occurrence of the phenomena of consciousness and complexity in the relationship and adjustment between the organism and its environment. The thing primarily we are interested in is the constitution of consciousness, its functions, and the laws governing its activities. Questions of ultimate nature and the like belong to the metaphysicians.

The fact that consciousness comes into existence only at a relatively late stage in evolution and in association only with relatively complex organisms would seem to indicate that it had some function in connection with the adjustment of the organism to its environment and it is from this view point that we can with best advantage consider its activities.

Speaking broadly the mind may be considered as an adjustive mechanism or more properly as a complex of adjustive mechanisms. To give a simple illustration of this rather abstruse statement. A man standing in the middle of the street sees a runaway team dashing towards him. It is because this man has a mind, served by numerous sense organs that bring in to it information about his environment, that he is able to use that information, assimilate it to similar experiences, and profiting thereby initiate certain activities calculated to remove him from the path of the runaway team and by so doing bring about a relation between himself and his environment that is efficient in saving him from injury and perhaps death.

This illustration while it may appear simple at first sight is in reality a complex situation and also one which is unusual in the course of the average man's life. The functions of the bodily organs are much simpler and much more usual in the sense that the same activities are repeated each day and perhaps several times each day. The adjustment of the functions of the several internal organs to one another, the timing of these several activi-

ties, so, for example, that respiration will be accelerated on increased muscular exertion and accurately related to it, is also a function of the nervous system but not a function of mind. Here we have a relatively simple activity, frequently repeated in precisely the same way and giving rise to well defined results along definitely established nervous paths and taking place without the intervention or coöperation of consciousness.

From this illustration we may gather that mind brings about only adjustments to outside conditions, that internal adjustments are not effected by the mind, and that these external conditions are relatively complex and unusual while the internal adjustments are relatively simple and frequent.

In other words, the lower nerve centers regulate the interrelations of the functions of the several organs of the body while the highest nerve centers that constitute the physical basis of the mind have to do with the adjustment of the individual as a whole —as a biological unit—to his environment.

To approach the problem in another way let us try and see if we cannot shed light upon it by a survey of the way in which these reactions are builded up.

In the first place every such reaction consists of three parts. The receipt of information from the environment through the medium of the special sense organs: the assimilation of this material and its relation to the traces left behind of previous similar experiences; and the issuing as a result of certain actions that in their ensemble constitute conduct.

The man in the example just given sees and hears the runaway team dashing towards him but he is only able to appreciate his danger because he has had innumerable experiences in seeing and hearing before to which he can relate his present experiences. The new-born babe in the same situation would derive no such information from the same set of conditions. It is because he knows the meaning of these experiences that he is able to initiate the proper movements and so control his body as to remove it from danger.

Such possibilities of reaction as described are plainly seen to be the result of experience, of the continuous coming into contact with all sorts of external conditions which have to be reacted to, extending over all of the years of life.

The child when born into the world has no mind, no consciousness. It has, however, a central nervous system and special sense organs. From the moment of its birth it begins to receive sensations from the outer world and to react to them. Some faint conception of the tremendous mass of material that is poured into the central nervous system through the medium of the special sense organs can be gathered from the statement of Titchener[2] that it is possible to distinguish 44,435 sensation qualities and the additional fact of the wide distribution of some of the special sense organs, especially those located in the skin, so that there are literally thousands, probably hundreds of thousands of points of stimulation.

In no other way can the stuff out of which mind is made find its way to the brain except by the sensorium. Whatever man may become must in the last analysis depend upon this material and so no conception of mind can fail to take it into account. A person at any particular moment is the end result of all the processes that have been at work since his conception and in the same way a given state of mind can only be conceived to be what it is because of all that has gone before—it is the end product.

In order that results may be attained, in order that the reactions of the individual should gradually develop from the meaningless, ill-directed, diffuse motions of the infant to the well-directed and efficient activities of the adult something more is necessary than the mere receipt of all this mass of sensory material.

The mass of sensations that are hourly, even momentarily, being conditioned by the constant stream of neural changes from the periphery and which are the raw materials of mind, the matter

[2] Edward Bradford Titchener: An Outline of Psychology. The Macmillan Co., New York, 1899.

later to be elaborated into percepts and ideas, are not received without order or classification. From the beginning they tend to group themselves about central points of interest, to be welded in association with one another by the dominant affect. Attention, interest, feelings of pleasure or pain and the whole host of affective states make differences of value among the elements of the perceptive mass and weld them into groups as a result. The ideas and their accompanying affects become constellated.

The boy who has grown up in a Baptist home by living under conditions that constantly impress him with the absolute truth of the Baptist ideas, going regularly to the Baptist church and hearing the sermons there; never having any experience with doubt as to the Baptist attitude invariably becomes a Baptist. His perceptions have all been directed towards that end and finally are constellated about a dominant idea and affect in a thoroughly definite way. And so it is with other beliefs and attitudes of mind or convictions. A man is a Catholic or a Protestant, a Republican or a Democrat, a believer in the inheritance of acquired characters or a follower of Weismann, as an end result of the balances that have been struck among his various experiences throughout life that bear upon these several issues.

The sensory and perceptual material is then not received and stored in disorder but arranged in definite and useful ways—constellated. These constellations, of course, are of all degrees of prominence and importance and bear all manner of associational relations with one another, and so operate in the most complex way to direct conduct.

A man may be born a Republican and a Catholic and there may be absolutely no relation between these two convictions. But he may be a Republican and believe or not in the wisdom of a tariff commission, and finally his conviction on the wisdom of the tariff commission may be the conviction of the minority and he may be willing to renounce his attitude and go over with the majority to avoid a split in the party. Here two constellations are intimately

connected but one is more powerful and dominates the other and so controls the conduct of the individual.

And so is the mind made up. Growing through the years by the formation of these constellations. Some are extensive and complex. Some simple. Some are plainly and definitely established and have been in existence for a long time, others are of recent growth and not securely held together in their parts but susceptible of relatively easy disruption. They have all degrees of dominance and dependency and are related by a network of associations. The complexity of their interrelations is very great but conduct can only issue as a result of their interactions and although it would seem almost a hopeless task to endeavor to unravel this bewildering intricacy still it will appear that there are certain laws that govern here as we find laws governing elsewhere in nature and with their help we can define certain general principles, at least, which may prove helpful. Let us look into the method of growth of these constellations and examine some of the conditions surrounding them and the ways in which they influence conduct.

For purposes of illustration let us take the example of the person who is learning to play the piano and see what happens. On the sheet of music there are a mass of signs that stand for notes of different pitch and duration, combinations of such signs indicating chords, other signs indicating pauses, and various directions as to rapidity or slowness, expression, loudness, repetition of certain portions, etc. The piano keyboard is composed of black and white keys arranged in certain definite relations to each other. The notes on the sheet of music each refer to a certain one of these keys and no other and in order to know exactly to which it refers the player must be able to "read music."

All this mass of impressions presented to the learner are just so many separate perceptions, jumbled together, without arrangement and without meaning. As the days pass by, however, there begins to emerge from this mass a perception of relationship

among its several parts, it begins to become comprehensible, takes on meaning. The relation between the printed notes and the piano keys becomes definite, the keys are struck and sounds that are pleasant are produced if the correct relationship has been maintained in the striking, sounds of an unpleasant quality if a mistake has been made. The mass of perceptions are beginning to arrange themselves in an orderly way. Constellations are being formed.

Now this process continues and the orderly arrangement of mental states as related to these outside conditions becomes more and more extensive and more and more perfect. There is taking place an adjustment of the individual to the environment, a building up of a certain relationship between the outside conditions—the sheet of music and the piano keyboard—and the individual, and this relationship becomes progressively more and more exact and more and more efficient. As the adjustment becomes more perfect disharmonies with their resulting painful mental states are less frequent—the harmony and efficiency of the adjustment is improved with practice.

It will be helpful at this point to point out briefly some of the differences in the state of consciousness of the beginner on the piano and of the finished product, the accomplished performer.

At first while learning, each movement is painfully conscious, the fingers have to be watched, each note separately observed, and the required movements are slowly and awkwardly executed. When proficiency has been acquired the same results are accomplished far better, with much less effort, and with so little attention that an occasional glance over the shoulder and even entering into the conversation of those about does not seem to interfere.

At first a note has to be carefully looked at in order to recognize it, then the signature, the tempo, the various directions, and its relation to other notes in the other clef have all to be separately observed before it can be finally sought out on the piano and struck in its proper time and place. Later all these things are

appreciated at a glance and the reproduction is instantaneous. In this way hundreds of notes in all sorts of relations and combinations may be struck in a single minute as the eye skims rapidly across the page of music, and the translation from the printed signs to the appropriate sounds is relatively immediate.

It will be seen that a relationship has been established with outside conditions that is very definite, the adaptation of the individual to the environment is highly efficient and takes place in a way so nearly absolutely fixed that it is practically predictable. There has been established by a slow process of growth a complex of mechanisms, mechanisms that are automatic or quasi-automatic in character so that whenever the appropriate stimulus is applied the whole machinery goes off in a perfectly well defined way in all its various parts.

In this description it will be recognized that we are describing a sort of activity that reminds us of the reflex. The reflex, however, is still more rigidly defined in its possibilities, its response is, to all intents and purposes, absolutely the same always, whenever a stimulus is applied. Then too it is no longer under the control of the individual but occurs whether or no. The piano playing activities on the other hand are always under the control of the subject. He may play or not, as he sees fit, and he may vary the production from the written directions to suit his own whim. The various activities of his fingers in seeking the notes are, however, not changed in either instance, they go on in their accustomed way in both cases.

This type of activity is called automatic, though it will be seen from the description that it is really a complex product containing, it is true, many automatic components, but containing also many that have not reached that degree of definiteness of response—activities that are still in the proving ground of automatisms.

One of the changes then that has been undergone in the process of learning is a change toward an automatic character of the reaction. With continuous practice the activities become more and more automatic.

Another change, which is important for us to note, is a change in the degree of awareness that accompanies these activities. The change toward greater automatism implies this change. From a condition of very acute awareness of every minute adjustment in the beginning there is reached a condition of almost absent awareness when a high grade of efficiency has been reached. At least those portions of the adjustment that have become truly automatisms have become activities of the unaware region of consciousness.

To put the matter a little differently, when the same or similar conditions in the environment are repeatedly presented to the organism so that it is called upon to react in a similar or almost identical way each time there tends to be organized a mechanism of reaction which becomes more and more automatic and is accompanied by a state of mind of less and less awareness. Or to put the obverse. Consciousness, or at least clear conscious awareness, appears only upon attempts at adjustment to conditions that are unusual, at "moments of conflict," on those occasions the like of which have not previously occurred in the experience of the individual and in relation to which, therefore, there has been no possibility of organizing reactive mechanisms. To put it again in a little different form. Clear consciousness does not accompany reaction to stimuli when the issue in conduct can only occur in a single direction, when there are no alternatives. Consciousness is an expression, as it were, of conflict. It arises in response to stimuli under conditions that make it possible to react by a choice of a line of conduct in any one of many directions.

This state of affairs calls to mind an analogy. Consciousness arises only under conditions of conflict, conditions of great complexity, of increased resistance as compared with the facile reaction along the definite lines of a reflex arc. When in the path of an electric current, a complex network of wiring is introduced that raises the resistance to the passage of the current, we find that accompanying its passage there goes along a marked rise of

temperature. As heat goes along with increase in resistance in an electric circuit so consciousness goes along with increase in resistance in a mental circuit. Herrick[3] has said "the various degrees or grades of consciousness are expressions of successively higher forms of the coördination of forces."

We must think then of full, clear consciousness as only accompanying those mental states of adjustment to new and unusual conditions: conditions permitting of various reactions and involving therefore selective judgment, critique, choice—in short, reason; and in proportion to the frequency of the repetition of the same adjustment the mental state accompanying such repetition tends to sink out of the field of clear consciousness. If we will consider the infinitude of adjustments the individual has to make to his environment we will see that this is a conservative process. As soon as a given adjustment is well formed it is pushed aside and the field of clear consciousness left free for new problems.

The same sort of process is responsible for phenomena in the race consciousness. The word "chandelier" originally was applied to a holder for a candle. The application continued for a long time, was frequently repeated, and was organized, therefore, into a stably reacting mechanism. The change in the source of light to gas failed absolutely to change the reaction and it is only lately, now that gas has long since been replaced by electricity that we occasionally hear the word "electrolier." Stated in this way the method of reaction will be seen to have a biological significance and not merely an individual or even a human importance.

All of these considerations go to demonstrate that the field of full consciousness and rational self-control is a very limited one, but that on the contrary the great majority of our mental states, our desires, inclinations, and actions are conditioned by mechanisms of which we are more or less unaware. It is worth while in passing to call attention to the principle that in proportion as the

[3] C. L. Herrick: The Metaphysics of a Naturalist cited by Professor Mary Whiton Calkins in General Standpoints: Mind and Body. The Psychological Bulletin, January 15, 1911.

control of conduct is outside of the region of clear consciousness it is apt to go astray under conditions even slightly different from those that were associated with the formation of the reaction—acting in accordance with the established mechanism even though conditions have changed, as with the example of the word "chandelier" just cited.

Up to this point we have been considering the constitution of consciousness in respect principally to its vertical dimensions—its depth. The illustrations have shown how reactions in proportion to their frequency and definiteness are more and more submerged from the region of clear consciousness to zones that are deeper. There remains to be considered the constitution of consciousness in its extent.

The broad general fact to bear in mind is that the various mental processes and systems of ideas—constellations—require to be synthetized and it is this synthesis that constitutes the personality. The breaking up of this synthesis, the dissociation, emancipation of systems of ideas plays such an important part in psychopathology, particularly in the psychopathology of hysteria, that they will be discussed in the chapter on hysteria.

As may be inferred we probably are always dealing, in the realm of the abnormal, with problems both of the depth and extent of consciousness and not with either alone and it would be next to impossible in a given case to define just exactly the relations of the symptoms to these two dimensions. The important thing is to have a general understanding of the make-up of consciousness and its very great complexities and to realize that the obvious and the superficial seldom lead on the right track.

The old idea of monomania is a good example of the sort of error a following of the obvious leads to. A delusion, a belief, whether it be the product of a disordered mind or not cannot possibly come from outside and be engrafted, as it were, upon the surface of consciousness. The mere fact that it is a belief demonstrates that it is something more than a formula repeated by

rote—that it is an expression of the individual, of the personality which as we have learned is a complicated product of the entire mental life of experience. On this point Mercier's[4] illustration is worthy of quoting. He says:

"The delusion is not an isolated disorder. It is merely the superficial indication of a deep-seated and widespread disorder. As a small island is but the summit of an immense mountain rising from the floor of the sea, the portion of the mountain in sight bearing but an insignificant ratio to the mass whose summit it is, so a delusion is merely the conspicuous part of a mental disease, extending, it may be, to the very foundations of the mind, but the greater portion of which is not apparent without careful sounding. Precisely how far this disorder extends, beyond the region of mind occupied by the delusion, it is never possible to say; but it is certain that the delusion itself is the least part of the disorder, and, for this reason, no deluded person ought ever to be regarded as fully responsible for any act that he may do. The connection between the act and the delusion may be wholly undiscoverable, as the shallow between neighboring islands may be entirely hidden by the intervening sea. But nevertheless, if the sea stood a hundred fathoms lower, the islands would be two mountain peaks connected by a stretch of low country; and if the hidden springs of conduct were laid bare, the delusion and the act might be found to have a common basis."

This illustration emphasizes the fundamental fact in the make-up of consciousness, of the connection and interdependence of all its parts. If this were not so a rational psychology would be impossible and all our therapeutic efforts would come to naught.

Relation between Mental and Physical

It will have been appreciated by this discussion thus far that as reactions become more automatic and less aware, and approach the nature of reflexes, that they present less and less the quality

[4] Mercier: Criminal Responsibility. Oxford, 1905.

of mental activities and become more and more physical in nature. This naturally opens up the whole question of the relations of the mental and the physical.

While I do not think it would be useful to discuss this question, at least from a metaphysical standpoint, still there are certain fairly patent features of the relationship that are of practical importance.

We are constantly meeting with evidences that go to show the intimacy of the relations between mind and body. We see this well under those conditions where a certain state of either mind or body gives rise to certain results in the other. For example: fear is a mental state and of mental origin but many physical changes follow close upon its heels—the rapid pulse, cardiac palpitation, vasomotor disturbances (pallor), dilated pupils, secretory disturbances (sweating), tremors, etc. On the other hand, the effect of the physical upon the mental is well seen in the toxemias as uremia and alcohol, in the mental states that go with certain diseases such as Basedow's disease, Addison's disease, and general paresis. A cut finger illustrates this relation well, for the cut is a purely physical thing while the pain is a purely mental fact, and finally there is the James-Lange theory of the emotions that accounts for our emotional states by preceding physical states.

My own opinion is that the individual reacts by the development of mechanisms that include both physical and psychic components, as the examples just cited indicate, and that between the most definitely physical of bodily processes on the one hand, and the highest psychic on the other an infinity of gradations exist.

The recent work of Pawlow,[5] on the salivary secretions of dogs, illustrates this conception well. He has shown that the physiological process, the flow of saliva, could be brought about reflexly by stimuli of sight, sound, touch, temperature or odor

[5] Pawlow: Naturwissenschaft und Gehirn. Wiesbaden, J. F. Bergmann, 1910. Yerkes and Morgulis: The Method of Pawlow in Animal Psychology. Psych. Bul., August 15, 1909.

provided only the stimulus had previously been applied in association with the giving of food. Having applied the stimulus originally thus associated so that it entered into and became a part of the mechanism of the dog's reaction to the food, later the reaction took place by the application of the stimulus although the association with the food was left out. The physiological process had become organically linked with the psychic stimulus. In other words a mechanism had been created which acted as a whole. Like a watch, the parts were so intimately related that no portion could be set in motion without setting the whole going. Or like a train of gunpowder, no matter where it is lighted the fire spreads rapidly throughout the whole train so that it all explodes very nearly at the same time.

Even when a portion of the mechanism is destroyed the rest may operate. The decerebrate dog turns and growls and bites at the fingers that hold his hind foot too roughly. Here there cannot be any possibility of the psychic state of anger. As Sherrington[6] says, "The action occurs, and plays the pantomime of feeling; but no feeling comes to pass."

In these two examples we have mechanisms each of which contain both physical and psychic components. In the first the mechanism was "touched off" from the psychic end, in the second from the physical end.

The action of a complex mechanism as a whole is shown exceptionally well in a case reported by Prince.[7] The patient was subject to hay fever in a very severe form when exposed to roses. On one occasion a bunch of roses was unexpectedly produced from behind a screen. A severe attack followed with lachrymation, congestion of the mucosa, dyspnea, etc., although the roses, unknown to the patient, were but paper. Here a pure psychic fact at one end of the scale produced a set of reactions which at the other gave rise to sensory, motor, vaso-motor, and secretory

[6] Sherrington: The Integrative Action of the Nervous System. London, Archibald Constable and Co., 1906.

[7] Prince: The Unconscious. Jour. of Abnormal Psych. Volume III, Nos. 4, 5 and 6. Volume IV, No. 1.

disturbances which can hardly be conceived to be remotely psychic. The important fact is that from the one to the other is an uninterrupted chain of associations.

Some further illustrations of the relation of mental and physical that seem particularly apt have received comment in the recent literature. They are important because they show clearly how the mental may be the starting point for physical changes. It is unnecessary to illustrate at any length the obverse—that the mental state is influenced through the physical. Everyone's experience contains numerous patent illustrations of this relationship from the more subtle effect upon one's mind from taking small quantities of alcohol or other drugs to the grosser and more obvious effects of a blow upon the head. This aspect of the relationship needs no support.

The recent experiences in thyroidectomy for exophthalmic goitre show how very important the mental state may become in relation to the physical. The success or failure of this operation, with the resulting death of the patient in the latter case, has been shown to depend very largely upon the possibility of so orienting the patient emotionally with reference to the surgical procedure that it is possible to do the operation under favorable conditions so far as the mental state of the patient is concerned. Crile[8] in a recent article has discussed this whole matter fully and outlined some of the methods for preventing or minimizing the element of psychic trauma. In working over this subject in connection with his study of a large series of cases he did some experiments on rabbits, and concludes that pure fear is capable of producing physical lesions in the cells of the rabbit's brain.

The recent work of Cannon[9] on adrenal secretion is very interesting and suggestive. He found that a solution of 1 to 20,000,000 of epinephrin inhibits the contraction of longitudinal intestine muscle. Blood taken from the vena cava of cats that had been

[8] G. W. Crile: Grave's Disease. A New Principle of Operating Based on a Study of 352 Operations. Jour. Amer. Med. Assn., March 4, 1911.

[9] W. B. Cannon and D. De La Paz: The Stimulation of Adrenal Secretion by Emotional Excitement. Jour. Amer. Med. Assn., March 11, 1911.

frightened by a dog produced this same result but no such result followed in the control. If the adrenals were removed this effect did not follow the excitement.

All of these illustrations go to demonstrate, to my mind, that the relation between mental and physical cannot be expressed, for example, by the theory of parallelism. This theory would have it that the two are absolutely different, that there is no real relationship of cause and effect between them, but that they go along side by side as a man and his shadow. All of the illustrations I have given seem to demonstrate indisputably that there is a relation of cause and effect between mental and physical, and further, that the cause may be physical and produce mental effects, or, on the other hand, that it may be mental and produce physical effects.

The practical and helpful way to consider the situation is to consider the individual as reacting as a biological unit. This reaction has certain mental and certain physical factors. Viewed from one standpoint one set of factors is emphasized; viewed from another standpoint the other set comes to the fore. The real nature of these factors is a subject that, along with all such questions that deal with the ultimate nature of things, may well be left to the metaphysicians.

One more matter in this relation of mental and physical. One not infrequently sees the statement that for every mental change one must postulate a physical change, and whether these two are considered to occur only side by side or to have relations of cause and effect it is assumed that the occurrence of one implies the occurrence of the other, and the two cannot be thought of in any other way. A further implication of such statements is that a sufficiently refined chemistry would give us the exact change from the normal that has occurred when a fixed idea, for example, has possessed the mind, and so there is no such thing as a strictly functional disorder.

While I am willing to admit that it must be conceived that there is a physical change in the central nervous system corresponding

to every mental state, still such an admission does not carry with it the necessity for the further deductions that are often made. A watch may be taken apart and the several wheels and springs thrown into a heap. No examination of the structure of brass or steel will show that any change has occurred. The structure of the watch as a whole has been greatly damaged but the nature of the several parts has not been changed. The disorder is a disorder of the relation of the parts to one another, not of the nature of the parts themselves. If a salivary duct is cut in two so that the saliva does not enter the mouth, the whole function of digestion may become disturbed; but the initial trouble was not a tissue change, not even a chemical change, but a disturbance in the relation of the several parts of a mechanism.

In the same way in the functional mental disturbances, those of psychogenic origin, the individual as the result of bad education, vicious example, poor environment, comes to have faulty standards, distorted viewpoints, wrong ideas. There can hardly be conceived to be a different chemistry for such ideas than there is for the average individual. Of course it may be argued that the cut in the salivary duct is a physical, and so a physicochemical change, that accounts for the trouble; that the chemical changes in people of faulty standards were abnormal at the point where the ideas departed from the beaten paths and went wrong; that the chemism of a certain mental state in one person must be different from a different mental state in some one else, and so on ad infinitum. To my way of thinking all such statements and arguments are academic in nature, and to say the least, bootless so far as practical helpfulness is concerned. Whether we can or cannot trace every fraction of a mental state to physicochemical changes is a matter for the laboratory and for the future. In the meantime it is decidedly more helpful to think of many conditions as being purely mental and in such cases, where disorder exists, to think of that disorder as being a disorder of relation (association) of the several parts of the mechanism rather than a disorder of the nature of those parts.

CHAPTER II[1]

TYPES OF REACTION—DEFENSE AND COMPENSATION

I have spoken of the mind as a complex of adjustive mechanisms. It will be well to study some of its mechanisms in action. In order that the nature of these reactions may be most easily understood it seems expedient to approach their discussion by first describing briefly the better known reactions of the same character in the physical realm.

The types of physical action to which I refer are the bodily reactions, defense and compensation reactions we may call them, to the various inimical agencies that may be brought to operate against the organism. For example: we know how the body defends itself from the invasion of microörganisms and bacterial poisons—how the invader is actively attacked and there are developed antibodies to counteract the disintegrating effects of toxins. We know that sometimes these efforts are fully successful, that sometimes they fail absolutely in the face of an overwhelming invasion and the individual dies, and that sometimes there is a compromise, the life of the host is saved, but at the expense of more or less destruction of certain parts with the formation of a scar. These are typical defense reactions. Then we have reactions that are more noticeably compensatory. Injury and disease frequently result in deformities, for example: a curvature of the spine, and when this takes place, we can see the development of a compensatory curve in the opposite direction so that the erect posture is not jeopardized. The man who has lost his legs develops tremendous strength in his arms and the muscles of the shoulder girdle so that he can use crutches and gets about with

[1] With certain additions (to be found in Chapter VIII) and minor changes this chapter formed the substance of a lecture at Cornell University in the course in Hygiene and Sanitary Science, February 28, 1911.

remarkable facility. In cases in which the pathological changes are brought about slowly it is astounding what the body can accomplish in the way of adapting itself to new and unusual conditions. I have for example seen at autopsy a tumor as large as a hen's egg growing within the brain which it had distorted by pressure in every direction without producing hardly any symptoms during life until near the end. The annals of medicine are filled with instances of the distortion of viscera, the migration and final extrusion from distant parts of foreign bodies and hosts of other examples of the wonderful capacity of the body for adjustment to conditions out of the ordinary. It is to this class of physical facts that I desire to call attention for the purpose of pointing analogies with certain classes of experiences in the mental sphere.

First, in order that these analogies may be the better appreciated, let us bear in mind the conception of consciousness that regards it as a means for adapting the individual as a biological unit to his environment.

Whereas the functions of the lower nerve centers have to do with the interrelations between the several organs of the body, so, for example, that the respiration shall be increased at the time of increased physical exertion and be accurately timed to that need, the functions of mind, considered in the large, are to bring about a proper relation of the individual as a whole to the several factors of his environment, more especially for our purposes, his social environment. He must be able to relate himself to his fellows in a way that makes for relative efficiency and we may say in a general way that those persons who find their way into the hospitals for the insane are those who have been unable to so relate themselves, have failed in making this adjustment and so being unable to live efficiently in their social milieu have to be taken out of its complexities and cared for in institutions.

This adjustment to environmental conditions is not, however, limited to a passive moulding of the individual by the environ-

ment but has an active side. The individual reacts upon his surroundings and endeavors to shape the world of phenomena in accordance with a plan he has in mind. He tries to mould the world about him to suit his needs, his desires.

It will be at once apparent from this conception of mind as being acted upon by the environment and in turn reacting upon the environment under the stimulus of desire that conflicts must constantly ensue, between desire and attainment, conflicts that may reach a satisfactory conclusion, may rest in a compromise, or result in failure.

It is at these points of conflict between the individual and forces either from within or without that are inimical or destructive in tendency that there arise the types of reactions to which I desire to call attention and which correspond to the defense and compensatory reactions in the realm of the physical functions.

One of the simplest of the mental defense reactions is forgetting. An analysis of examples of forgetting indicates that it is not the simple process it is usually supposed to be; that it is not, in many cases at least, a passive process at all, but is eminently both active and selective. Forgetting in other words is a means of defense for it is the disagreeable and painful experiences that are characteristically selected. Recall some embarrassing gaucherie you may have committed in the past, recall your active attempt to put it out of mind and at least your partial success, then compare the disagreeableness of having these remarks perhaps remind you of it and you will realize how much that is unpleasant you have been spared. This forgetting is a conservative activity putting out of mind the disturbing and the painful. Sometimes considerable periods of time or a whole series of connected events are dropped out of consciousness en bloc as it were, and it will be found on analysis that these circumscribed amnesias, as they are called, characteristically relate to painful events, such, for example, as the horrifying experiences of a train wreck. From being so gross and obvious the process of forgetting often

occupies itself with very small affairs. One of my patients for certain reasons, which it is not necessary to detail, was not fond of her husband, in fact entertained a certain resentment towards him. He provided her, while in the hospital, among other things with pencils as she was very fond of writing. Invariably, however, almost as soon as he gave her a pencil it was mislaid and lost. The pencil was a concrete reminder, it originated a painful emotional experience, so she defended herself from this source of unhappiness by losing it, putting it hors de combat, so to speak, where it could do no harm.

This example of the pencil symbol shows well the mechanism by which a painful subject may be surrounded by danger signals as it were, warnings that any further progress in that direction will be disastrous. In this way a disagreeable or painful memory may be surrounded by a wall of defense which may grow in extent and circumference until there is hardly any approach to the personality at any point. This is very well illustrated by a case cited by the eminent French psychologist, Dr. Janet.[2] A woman had lost a very dear friend by death. She retained only one souvenir of him, an old dog. Two years after his master's death the dog died. From this event the woman began to have nervous crises at intervals. The details of her defenses are interesting. These crises were brought on by simply hearing a dog bark in the street, by seeing a cat pass by, or even hearing the name of one of these animals pronounced. Certain other words had the same effect, such as "love," "affection," "happiness," and she absolutely forbade their use. The mention of a certain date was similarly painful and so for fear of being reminded of that date she forbade the mention of any date whatever in her presence. My patient of the pencil symbol by this sort of mechanism finally developed the delusion that she was dead and this idea made her almost inaccessible from any direction.

[2] P. Janet: The Mental State of Hystericals. G. P. Putnam's Sons, New York and London, 1901.

It is in the realm of the abnormal that we often find the clearest examples of such defense reactions for we must remember that here, as in the phenomena of disease in the body, we are dealing with an experiment of nature—an experiment such as we are unable to make in the laboratory but which pulls apart and dissects for us the complicated structure of the mind and shows us what is going on within.

Another of my patients[3] who was suffering from an hallucinosis heard a voice that advised him as a father would a son; it suggested to him to become a Catholic for he would then have a priest who would be a father to him. It is noteworthy that his father was dead—that he had been remiss in his religious duties and had been drinking a great deal, in fact his psychosis was the result of over indulgence in alcohol. His better self literally spoke to him in the form of this hallucinatory voice.

A very instructive case is reported by a Swiss psychiatrist[4] of a Russian Jew, who, greatly against the dictates of his conscience, had decided to become a Christian. His mother appeared to him in a dream and said, "If you do this I will choke you." Here the "still small voice" literally spoke and he obeyed. Another most interesting case[5] is cited of a young woman who was so beside herself that she decided on suicide as the only escape from her sufferings. She went to the water's edge and was about to throw herself in when the image of a physician, in whom she had great confidence and upon whose advice she had learned to lean, rose from the water, took her by the arm and led her home, meantime counciling her upon her duties to her children and otherwise pointing out to her how wrong was her contemplated act. See how wonderful are the defense mechanisms in these cases that

[3] Wm. A. White: A Case of Unilateral Hallucinosis (Alcoholic). Bulletin No. 1, Government Hospital for the Insane, Washington, D. C.

[4] Jung: Über die Psychologie der Dementia Præcox.

[5] Flournoy: Automatisme Téléologique Antisuicide. Un cas de Suicide Empêché par une Hallucination. Arch. d. Psychologie, Tome VII, October, 1907.

serve to keep the individual to the right path and even in the last case actually to save a person from destruction.

Although the defense mechanisms may work with great efficiency, in serious conditions when the pain is very great they do not succeed. No matter how thick or how high they build their wall the pain is still within and has to be reckoned with.

Some compromise is now sought. Some compensation that will enable the person to bear his burden. We all know the usual examples. Emerson[6] has cited a number of the commonplaces and our experience has given us others. We are familiar with the great sorrow that turns out to have been a blessing in disguise, we have seen harsh, severe characters made mild and sweet by illness, we know of misfortune that has brought out great strength of character and efficiency in an individual that up to that time had shown only weakness, we have seen time and time again the disappointed and bereaved turn to the consolation of religion. These are the usual things. But the mechanism of compensation is more widespread than these simple instances would indicate. The character by which we are known is often the result of this sort of solution to the inner conflicts. People who are noted for their wit or for their cynicism are often persons sad at heart who have developed a character which expresses quite the opposite of what they really feel and as in the phenomena of immunity the bodies developed in the organism to antagonize a poison are always developed in greater quantity than necessary, here the reaction goes beyond the requirements and the wit and cynicism become obtrusive features in the character.

It is these inner conflicts, the results of the discrepancies between desire and possibility of accomplishment that furnish much of the energy, by a process of sublimation for our activities. It is a commonplace that the love-sick maid or youth may have their interests distracted by social activities and amusements—the energy of their conflict may be drafted in other directions. In

[6] Essay on "Compensation."

the same way we believe that, often at least, the beautiful things produced by the artist are the result of sublimated energies devoted to his art. These inner conflicts must be handled in some way. In the weak and poorly organized they literally tear the individual apart and make only too often nervous invalids or even result in chronic deteriorating psychoses. One of the most efficient of the mechanisms developed for dealing with them is the mechanism of compensation.

It is no empty phrase, the saying that "an artist is wedded to his art." For a life of sorrow, bitterness and disappointment his art offers him the only avenue of expression, in this direction only can he mould to suit himself, here is the only opportunity for expression, for fulfilment, and he turns to it and finds in the oblivion it brings him his only happy moments.

Look for a moment at the lives of those two Titans in the realm of art—Beethoven and Michelangelo. See Beethoven, a strange, distorted personality, practically a recluse, often with barely enough money to buy food, and living in poverty and want. He lavished all of his affection upon his worthless nephew who brought first one and then another sorrow upon his shoulders, disappointing him over and over again and finally indirectly causing his death. In the latter part of his life he is still further cut off from the world and even from his music by deafness and still we find him repeatedly under all these miserable conditions in a very ecstasy of joy when possessed of some grand conception which he is weaving into a musical composition.

So much as we know of Michelangelo reminds us of Beethoven, a sad, depressed, resentful character, forced by successive Popes to paint when he himself declared he was not a painter but a sculptor, and finally fighting for the liberty of his beloved Florence and seeing it fall and then with the irony of the relentless fate that pursued this tortured soul he was forced to serve its new masters.

In more recent times we see, I think, quite clear evidences of a

tremendous, unresolved internal conflict in the life of Tolstoy. This remarkable character was always at war with himself, always unhappy and dissatisfied. The conflict at the end, when by age and sickness he had lost the power of keeping it in control produced that dramatic but bizarre, almost grotesque fugue just preceding his death that was almost pathological in its outward manifestations.

And so we find innumerable examples of men who have brought things to pass, creative geniuses in all walks of life who have been torn by inner unrest, but who have been able to turn all their magnificent energies into their life work—to sublimate.

Let us turn again to nature's great psychological laboratory—the mind deranged. Here we find compensatory mechanisms quite characteristically. Take the following case: A man of sixty-five. During his early days he had been very successful and succeeded in acquiring a competency and was able to retire from business. Toward the latter part of his life, however, there was a falling off in efficiency and he lost all his money. Having been in the naval service of the United States he entered one of the naval homes. Here he secured a position in the office at clerical work. He is recorded as having exalted ideas of his own ability and being suspicious of those about him. He finally came into such acute conflict with his surroundings (personal encounters) that he was sent to the Government Hospital for the Insane. The explanation of his mental state is relatively simple. Having fallen off greatly in efficiency he is defended from the painful realization of this fact by exalted ideas of his ability. His work, however, as a matter of fact is not well done. He is again protected from the painful realization that it is because of his inefficiency by the ideas of suspicion which places the blame upon others who are jealous of him and try to injure him. Removed from the setting in which these troubles developed he at once calmed down and presented on the surface quite a normal appearance.

In the mental disorders that are associated with deterioration the combination of exalted ideas with delusions of malevolent outside influences is quite common. It is the protective device erected as the result of a compromise between desire and accomplishment.

I take it Kipling gives us just such an example in his works. In saying this you will understand that I draw no hard and fast lines between the normal and the abnormal. My illustrations from the pathological are only illustrations and have no further connotations. The same mechanisms are found in every-day life as are disclosed in the insanities. To return to Kipling and see if we have not an excellent evidence of the productions of a writer as the result of a comproimse between desire and fulfilment. His story "They," written after he lost by death his favorite child, is a story of children, not real children but the children of fancy that are everywhere in evidence but yet have no real existence, the creatures of the mind, the wish children of the writer described in the pages of his book.

This example calls to mind those delightful Alice stories written by Lewis Carroll—a bachelor, a semi-recluse, a mathematician—and seems inevitably to suggest the same kind of explanation.

Not only does the author reap compensations from his work but the reader may, too. In a delightful bit of Stevenson's, an essay on popular literature, he discusses the reasons for the vogue of the penny-a-liners. The type of story affected by the bar maid and the shop girl is usually a fervid tale of love under difficulties in which the heroine, who is, mark you, of the bar maid or shop girl persuasion, is finally won by her hero, a real lord, married and translated from her lowly state to the peerage. See what such a story offers. From the sordid life of serving mugs of ale at the corner pub Maggie has a magic wand with which she can at a moment's notice transfer herself into the land of dreams, the land where things come true, and identifying herself with the

heroine live through the chapters of the story another life in which all her wishes are realized. It is no small happiness that Maggie gets out of her story and it is no small service to have written it.

We psychiatrists must acknowledge that many of the things that we have discovered with great labor have been known instinctively by the writers for a long, long time.

And this brings us to the land of real dreams. The most recent theory of dreams regards them without exception as wish-fulfiling. To cite an example: One of the most profoundly depressed women I have ever known, so depressed that she finally succeeded after several attempts in taking her own life, invariably had the pleasantest of dreams, always dreaming that she was at home, happy with her children.

The dream is not usually so obviously wish-fulfiling as this. For reasons into which I will not enter now, the real meaning of the dream is so hidden that it can only be discovered by tedious methods of analysis. In such cases the meaning is generally expressed in symbolic form. One of my patients dreamt that she stood beside a casket in which she saw her own dead body, the hands crossed and a red rose held in one of them. Analysis disclosed the meaning to be her desire to be united to her lover from whom she had ben cruelly separated, even though that union be in death. He and she had been schoolmates as children and every morning he used to bring her a bouquet of red roses from his mother's garden and place them on her desk. The red rose symbolized her girlhood's sweetheart.

The child's dream is much more frankly wish-fulfiling than that of the adult. He has not yet become so complex as to produce a symbolic dream like the last one I cited. He goes frankly and directly to the point. Yes, and more than that. He dreams in his waking state and in his play lives out his dreams so that the child world is very different from the world of realities, the world of cold facts that the adult learns to know.

It is a fascinating theory that assures us that after all, no matter how hard the world may be, we have but to sleep and presto! all is as we wish it.

There is considerable collateral evidence, however, that this may be so, evidence that goes to show that man will have his way whether or no, if not in the world of facts, then in the world of fancy.

If we turn to folk-lore we will find that just as the heroine in the penny-dreadful represented all of the fondest wishes of the reader realized, so the hero of folk-lore stands for the realization of all that the race believes desirable. There is a remarkable similarity in the stories, particularly as to the origin of peoples and tribes. Almost in every instance the origin is traced in some myth back directly or indirectly to a god head.

See here the same mechanism precisely that we saw in the dream, in the production of the artist and the wish-fulfiling of the writer and the reader, and in the self-aggrandizement of the insane man. People wish to be great and verily they are great.

The child lives in a land of dreams, a fairy land of fancy. The myths, the legends, the folk-lore are the dreams of the childhood of the race. And as there are many grown-ups who still believe in ghosts so there are advanced races who stick to the legends of their childhood. Do our preachers not tell us that "man is made in the image of God?"

I have said that man will have his way, if not in the realm of facts then in the realm of fancy. It often happens, however, that things do not go as he wishes, they refuse to do his bidding, as it were. Particularly is this so with regard to his own impulses and actions. The reaction under these circumstances is interesting and instructive. Let me illustrate. I was talking a short time since to a man who had been sentenced to life imprisonment for manslaughter. He had killed a man by stabbing him in a quarrel. I questioned him for the purpose of seeing just how he felt with regard to his act. In the first place he was very

emphatic in his blame of the deceased for picking a quarrel with him. He was very much bigger than the prisoner and so the only way he could adequately defend himself was with some weapon. The deceased knew this and was virtually taking his life in his hands when he started the trouble. Then again the doctor didn't treat the wound as he should. The man came to his death really through his own foolhardiness and the lack of skill of the physician. This was all told with a smiling countenance and without the remotest suggestion that the man blamed himself in the least.

This is the reaction to which I referred. The reaction of justification. The prisoner convicted of a crime, has deluded himself into the belief that he is blameless and that what happened was unavoidable and must simply be made the best of. Those who have the disagreeable duty of holding this man in custody are convinced that it is for the good of society and so you see everybody is happy, even the criminal, and we might say with Pangloss, "All is for the best in this best of all possible worlds."

We see this reaction of justification on all sides. The drinker drinks when it is hot to cool off, he drinks when it is cold to warm up, when he is joyous to celebrate, and when he is sad to drown his sorrow. All of which simply means that he cannot control his habit so he must find a good reason for indulging it and so justifying his conduct to himself.

The "sophisms of the indolent" are perhaps best known. Go down into your own soul and recall your reasonings when your desk was filled with work and a beautiful summer's day beckoned you to a day of recreation in the company of kindred spirits. We all indulge in the weakness but some do little else their whole lives long but invent excuses for being idle.

There are many, many more types of defense. Sleep is perhaps the best organized one. We do not sleep because we are fatigued. We sleep long before the deleterious effects of fatigue are in a way to damage the organism. Sleep is a biological defense against fatigue. We sleep so that we may not become

fatigued. And so with laziness and diffused attention. These are not always to be condemned. They are often the only means at hand for preventing undue stresses. One could hardly invent a better means for preventing mental overwork and strain than by a diffused attention, a degree of distractibility that prevents close application. We must not after all be too harsh in our judgments of the indolent but remember that they number in their ranks many relatively inefficient persons who are unable to bear the stresses incident to prolonged continuity of effort.

From these illustrations, the thought I am endeavoring to convey can, I think, be gathered. As the biologist sees in living beings creatures constantly at war with their surroundings, developing weapons of offense and defense, succeeding, failing, but more frequently coming to some compromise in the struggle, so we may look upon the world of minds and picture each individual mind in just such a struggle with just such kinds of results.

CHAPTER III

THE CONTENT OF CONSCIOUSNESS—DREAMS—SYMBOLISM —THE PSYCHOSES—FOLK-LORE

The fundamental conception which it will be the object of this chapter to set forth is that every psychic fact must have been preceded by an efficient psychic cause. As we have already had repeatedly emphasized by examples, ideas, or better, mental states do not arise de novo. They must always be the outcome of other mental states from which they necessarily issue. This is so throughout the field of psychology, normal or morbid. It is true even in the realm of the psychoses due to organic changes in the brain. That an alcoholic should have a delirium may well be dependent upon a toxemia, but whether he sees in his delirium snakes or monkeys, visions of his office or of hell must depend upon purely psychic causes, upon the preëxisting psychic material which has become involved in the disorder. Whether a paretic is exalted or depressed, whether the exaltation is largely erotic or expresses itself by delusions of great wealth must find its explanation in the mental make-up of the person afflicted, and the character of his psychic trends. The cards may be indefinitely shuffled or arranged in any way, but there are only fifty-two in the pack, and the result whatever it may be, must be conditioned by that fact.

With this fundamental conception the psychiatrist, for example, is in a position to remind us of the chemist or the astronomer. If there is a hiatus in the logical connections of the different steps in a psychosis, like the chemist he can with confidence look for an element to fill the space. If there is a disturbance somewhere along the line he may expect, like the astronomer, to find a hitherto unknown source of energy to account for it.

Our assumption then is that every psychic fact has an efficient

psychic cause; that an idea does not spring into existence without having been the logical outcome of other ideas; that for every mental state, for every idea or feeling, there is an adequate explanation whether that explanation can or cannot be found. It implies for example that every psychosis, if all the facts were known, by that is meant internal, conscious facts, would be found to have arisen as a logical necessity step by step; that every state of mind should theoretically be capable of reconstruction from the elements that analysis shows it to consist of.

If this is true it should hold under all circumstances, normal or abnormal, for we must always remember that there is no qualitative difference in the mental processes in disease and health—the difference is only quantitative.

This conception has received a certain popular vogue in the general expression that we cannot dream of anything we did not previously know about though we might dream of an animal with a lion's head, a crocodile's body, and horses' hoofs still all the component parts were well known—nothing has been created.

A good illustration of this view came within my experience during a recent ocean crossing. We were nearing the other side and were beginning to pack and get ready to land. As is usual we were often asked to write in each other's albums, exchange cards, etc. One of my fellow-travelers, in giving me a "souvenir de voyage" signed it as on board the "Kroondam." Now there is no such ship as the "Kroondam." There is a "Kroon-land" and we were on the "Noor-dam," so the material out of which the new name was made is plain to be seen. Of course I have no knowledge of the reasons that led to this lapsus calami.

Another example will show this point perhaps better. A patient during a delirium called a cigarette "Thingvalia." An analysis of this expression showed that the patient had once won some money betting on a horse by that name and that with the money thus won he had purchased some of a particularly expensive brand of cigarettes. The association thus became plain and

the reason for the use of the word to designate cigarettes clear. And so again we find an apparently fortuitous incident fully and adequately accounted for.

Let us look further, into some of the different kinds of consciousness, particularly in dreams and the psychoses and see whether this principle holds true there, and first let us take up

Dreams

One of my patients dreamt of a log cabin in the mountains with which he was familiar as a boy. There appeared in the dream two dogs, then two wild cats, a house cat, a man and finally a big gray wolf. The two dogs, the house cat and the man belonged to the place as he remembered it. Wild cats, too, were plentiful in that locality and he had often seen them. He never saw but one wolf, however, and that one had been poisoned and was dead when he came upon him suddenly near the house one day, and he was badly frightened. This wolf, though, was a yellow wolf while the dream wolf was gray. The discrepancy is accounted for by the fact that he had been to the zoo a day or two before and had seen some gray wolves. This is an excellent example, not only of how the dream is conditioned by the just preceding waking experiences, but of the detailed picking out of a single element and its modification by such preceding experience.

Let us take a more complex example. A young woman dreamt that she was standing on the edge of a precipice; a man came along and pushed her off. At the base of the cliff was a mass of writhing serpents; just as she was about to fall among them she screamed and awoke. The impression was created on listening to the recital of this dream that she had been much frightened at being pushed from the cliff. This, however, was but the elaboration of the waking consciousness. She was not frightened to any extent. The analysis shows why. The cliff was familiar to her as being a place she had frequently visited. Standing on the edge of the cliff was symbolic of a social and moral danger.

She had never seen an old-time lover since she had married, and had wondered, if she were thrown with him, if he would try and tempt her. The man who pushed her off the cliff was her lover, and the falling down really representing a moral fall, did not frighten her very much, but was rather pleasant as it involved his companionship. As she nears the bottom, however, she sees the den of serpents. The serpent for her represents sin and recalls the sin in the garden of Eden. Her fall has been pleasant until she sees its end in sin. This end is so hateful to her that she cannot even permit the idea to enter her thoughts. The censor of consciousness, lulled by sleep, has permitted this symbolic wish-fulfiling play to go on up to this point, but now must be aroused to full activity and press back to the furthest and darkest recesses even the suggestion of a sinful denouement. The patient awakes.

So much for the meaning of the dream. It will be interesting and instructive to trace one of its component parts—the part played by the serpents. In the first place, we already have the utilization of the snake symbol in the dream, conditioned by its occurrence in the Bible as a symbol of sin in the story of Adam and Eve in the Garden of Eden. In passing it might be mentioned that the snake appears very often in the folk-lore of many peoples as a symbolic emblem. In addition to this, however, analysis disclosed three distinct snake experiences previous to this dream, and all had occurred within a period of three weeks.

First: There was a disturbance in the hen house, and she went with her mother to see what the trouble was. They found a large snake coiled up on the eggs. Her mother, who had brought a pistol, shot it. The next morning she found its dead body nearby.

Second: While walking out with her mother a snake (she thinks a spread-head adder) ran across the walk, and her mother stamped on it and crushed its head with her heel.

Third: On the occasion of a visit to her sister's grave she found a snake coiled up on the grave.

These three snake experiences were elicited by the method of free association (see Chapter VII) from the snakes of the dream as a starting point, and so I think we may be sure that they all played a part in conditioning that portion of the dream. The dream snakes, we would say, were over determined. That is, their occurrence was brought about from several directions, from several associations.

Certain further ramifications of the serpent symbol are interesting, particularly in view of its frequent phallic significance in dreams, art and legends.

When she was twelve years old (it was after the three snake experiences) a man passed her as she was sitting in a carriage with a girl friend. He returned, asked where she lived and later called on her parents. He became a constant caller, wanted to adopt her and finally induced her parents to let him take her for a few weeks to Havana. One day he grabbed her and tried to kiss her. She fought and screamed, was much frightened and went to her room and cried; shortly after she returned home. In describing this man she says she does not know how to express herself, but that his forehead was wrinkled, his shoulders drew together, expressing a disagreeable and disgusting feeling, and she says she always thought of him as a sort of snake.

After her marriage she resorted to the usual means to prevent conception, but always considered it wrong. She used to then recall the snake coiled up on the eggs (first snake experience) and think of it as symbolic of her sinfulness in preventing conception.

Previous to the patient's admission to this hospital she was in a sanitarium for some months. While there she was occasionally given a hypodermic injection, and used to think of it each time as the sting of the spread-head adder (second snake experience). One night—she had been taking bromides for a long period—she awoke and saw the room full of snakes of every kind. They were on the ceiling even, and the quarter round was

a tape worm. On another occasion she looked out from a watch tower upon the sea of eternity, upon which was a rowboat in which were her husband and children. She tried to get to them but could not, because a large boa constrictor was wound about her. On one occasion she told of this vision somewhat differently. Said her dead child called to her from the boat, "Mamma, please come with us!" But she realized that she was lost and could never get to them. Did not recall about the boa constrictor when reminded of it, but says she feels as though a big snake was coiled about her every minute of her life.

Another dream of the same patient is equally illuminating. To understand this dream it must be known that the central event which was the determining factor in producing her psychosis was her separation from the man she loved through the machinations of her mother, who brought it about in such a way that she thought he had deserted her, and her subsequent marriage to the man of her mother's choice whom she did not love.

One month after the separation she attended the funeral of a young man who had been engaged and whose fiancée had nursed him in his last illness. At the funeral she wished it were she that was dead, and thought it would have been better to have died than to have been parted. Following this experience she had the first of what I shall refer to as the coffin dreams.

She dreamt that she was standing beside a coffin in which she saw, instead of the body of the young man, her own dead body. The coffin of the dream was the coffin she had seen. It was black, had silver handles, and was lined with white satin. Her hands were folded across her chest, too, just as his hands had been. There were certain differences, however. There was one candle burning at the head and another at the foot of the coffin, and in her hand she held a red rose.

Now as to the meaning of this dream. In the first place, after she had been separated from her sweetheart she had plunged into social dissipation, opera, teas, social functions of various sorts,

in order to distract her mind from her sorrow, and as a result had become very much tired out. The candles were symbolic of this state of affairs and were emblematic of the old adage, "Burn the candle at both ends." The rose, too, had symbolic significance. Her sweetheart, when they were children together in school, used to lay a bouquet of red roses, that he had picked in his mother's garden, each day upon her desk. The rose symbolized her sweetheart, and in accordance with the theory of Freud that all dreams are wish-fulfiling, we can interpret the meaning as being the wish to possess her lover, even though that possession were in death.

It is of great significance that this coffin dream occurred three times during her life. Once after the funeral, then the night before she was married, and finally the night before her second child was born. Note the critical moments it selected for its appearance, or more properly note that these are occasions, above all others, when the thought of her girlhood's sweetheart would tend to recur to her.

A further example of the symbolism of the red rose and the vivid emotional coloring it received in her consciousness, is offered by a visit to a florist. The place was filled with red roses, she saw an hallucinatory figure of her old-time sweetheart, greeted him with an exclamation of surprise and fainted. When she came to she inquired if a gentleman had been standing "there," and was, of course, told "no."

During her delirium in the sanitarium, and before admission to this hospital, she saw her own funeral procession in the clouds. She had considerable nose bleed at that time, and the bleeding seemed like red roses gushing out, and the blood would rush out forever, run down the stairs, and the people fled in terror.

So much for the phenomena of dreams. These examples show the intimate relation of constellations in consciousness, and how they are associated. It is naturally impossible to separate the dreaming and the waking consciousness, because they are merely

different experiences of the same thing; and so we see how the same influences that condition the dream also condition certain phenomena in the waking state.

Symbolism

A word only about symbolism in connection with this subject of dreams, for it seems the most appropriate place, although the phenomenon is widespread and by no means confined to expression in dreams.

A symbolic method of thought or expression implies a primitive, simple type of mind; one that does not look beneath the surface of things, but accepts without question the obvious. One thing resembles another in some single character only perhaps, and immediately the conclusion is reached that they are related in nature or perhaps even identical. This is the crudest of all forms of reasoning—reasoning by analogy,[1] and gives rise not only to all sorts of errors but to beliefs that are most grotesque and fantastical. Examples are many and may be found in abundance in the superstitions and folk-lore of all peoples.

We all know something of the good and evil spirits, in the beliefs of different peoples, that are supposed to account for things; of the dryads and nymphs, the demons and the furies, the fairies and trolls, the banshee, hobgoblins, ghouls, ghosts and gnomes. They could all be pressed into service as examples of symbolism and reasoning by analogy.

Shute gives in illustration[2] the belief of the English peasants that they hear in the gale that sweeps past their cottage the wail of the spirits of unbaptized children, and cites Tylor, who recorded an experience in Cornwall of the belief that "shingles" was attributed to a kind of coiling serpent. A young girl was afflicted and the family waited in grave apprehension lest the animal completely encircle her. They believed that if the crea-

[1] D. K. Shute: The Philosophical Foundations of Charlatanry in Medicine. Washington Medical Annals, Vol. VI, No. 6.

[2] Loc. cit.

ture's head and tail should meet the patient would die. See on what flimsy, superficial, inconsequential similarities an inherent relationship of some sort between phenomena is posited!

It is in the realm of dreams par excellence that the phenomenon of symbolism manifests itself in all its richness. The dream consciousness is uncritical; ideas come and go without direction, the whole scene suddenly shifts without calling forth even an exclamation of surprise; the faintest resemblance is enough to cause one object to symbolize another. We are dealing with a state of mind quite as lacking in intelligent selection as the mind of primitive people; and so, as we might expect, the results are similar, for myths and dreams are quite alike in structure and meaning.

If dreams offer the best opportunity for symbolism, it is not the only opportunity. We meet with this phenomenon constantly, especially in the psychoneuroses. As we have seen that the symptoms of the psychoneuroses have their inception in a region of consciousness that is removed from the full, bright light of conscious awareness, a region that is not in the focus of attention, we might expect that the result would be similar to that found in dreams. This is so. The symptoms of these disorders, and in fact of the psychoses, have their birth in the twilight region of consciousness, where critique is in abeyance. For the same reason, therefore, as in dreams, we find that resemblances are taken at an obvious face value that results in symbolism.

From this brief digression on the subject of symbolism, let us now turn to the symptoms of

The Psychoses

Here the evidence is often not so clear because of the rich growth of material that has been going on for years, so that, more than anywhere else, we will be led astray if we follow the obvious. The psychosis, so far as the mental symptoms are concerned, is an expression of a conflict in the individual's mind between desire on the one hand and attainment on the other. The

psychosis is an expression of failure plus the more or less well organized compensatory and defense mechanisms. Let me illustrate by repeating a case cited in Chapter II.

A fairly successful business man[3] begins to lose efficiency in the arteriosclerotic period of life. He had acquired what, at that time (twenty years ago), and for such a man, was a fortune—about sixty-five thousand dollars. With the falling off in efficiency he lost all this and entered the Naval Home. Here, because of his business experience, he was given a place in the office at clerical work. He came into immediate and frequent conflict with those about him. Two sets of ideas developed side by side, both of which are expressions of a defense reaction to his failing efficiency. He had very exalted ideas of his own ability. Such ideas you see are distinctly defensive, for they save him from the pain of a realization of his defects. Then along with these ideas goes the delusion that he is being interfered with by those about him. Another defense reaction which serves to explain how a really efficient man, such as he considers himself, can after all, turn out such poor work. Again he is saved from a realization of his failings.

You see how, if we seek to understand our patients, each symptom will be found to have its raison d'être, and not be in any sense whatever fortuitous or accidental. This association of grandiose and persecutory ideas is frequent and I am sure often has a similar explanation. Take another case.[4]

A single woman, in middle life, breaks down and develops a well marked præcox type of reaction, with a loosely organized system of delusions of marked sexual coloring. She believes that she is married to a Mr. A——, that she has had a criminal operation performed on her, complains of having had a vaginal hemorrhage and says she has two large cuts in the vagina. Without going into details I may summarize the situation by saying that

[3] White: The New Functional Psychiatry. Case II, Arch. of Diag., October, 1910.

[4] Case III, loc. cit.

here we are dealing with a woman in whom the conflict is a sexual one, with the development of a compensatory and wish-fulfiling delusional system. Wishing for a child she becomes impregnated. Being a virtuous women this has to be accounted for, and she therefore develops the delusion that she is married to Mr. A——. Inasmuch as no child appears upon the scene, a delusion that she has had an abortion performed accounts for its absence. But because this is a criminal operation and therefore repugnant to her, a further delusional formation meets the difficulty. The operation was performed without her knowledge while she slept. See how logical such a delusional system really is! Note also how it compensates for certain well-defined deficiencies in the patient's life.

To revert again to the patient already mentioned, the one who had the snake and coffin dreams. She had the delusion that she was dead and spoke of herself constantly in the third person as "the corpse." Without going to the full length of analyzing and explaining the growth of this delusion, I want to invite your attention to the great number of unusual experiences that she had in her lifetime with death.

At the age of five, when she was living in New Orleans, a convent in that city burned down. It had double walls and between the walls were found many babies' bones. She used to be frightened as a child in passing the convent for fear they might get her and throw her down between the walls.

When about fourteen she read "The Murder of Nancy by Bill Sykes," and fainted while reading it.

She has read Voltaire, Paine, "Letters from Hell," etc.

She saw three of her schoolmates drowned. One of these drowning accidents occurred just a week before her only miscarriage.

She had two experiences in the South in seeing a crowd of men about to lynch a negro.

During the Spanish-American War she dreamt of seeing a

young man, the son of friends, who had gone to Miami where the troops were stationed. He was seated on a bench on a long wharf and was quarreling with a soldier who was walking in front of him. He got up and struck the soldier, they had a struggle, and the soldier stabbed him and threw him overboard. As his body struck the water she awoke. At ten o'clock that morning the boy's mother received a telegram informing her that her son had been murdered. (The temporal relations may of course be reversed—paramnesia.)

After her little boy died she received three postal cards, each bearing the picture of a stork, but sent by different persons.

When twenty-three years old a funeral passed the house. She said to a woman present that she envied the corpse. The woman remonstrated with her.

In 1894 she took tea one day at the house of Mrs. O. Next morning a lady met her and told her she had news for her, and asked her if she could imagine what it was. She replied that Mrs. O. was dead. This was the fact. Mrs. O. had been found dead in bed; was well the night before when she was there. (This may also be paramnesia.)

About one month before her marriage a girl friend at whose house she was married, sent her her photograph. She had been ill and looked bad as a result. On the back of the picture she had written, "Susie going to her own funeral."

Her mother has always had a depressing influence upon her. Says it seems as though her whole life had been a struggle against the gloomy view of life of her mother. Her mother was always saying, "What's the use of life," etc., and when she was eight or ten years old she remembers her mother used to talk about life and take a gloomy and pessimistic attitude towards it. Only yesterday (June 4) she received a letter from her mother telling, among other things, of three suicides among her friends.

She had three experiences taking railway journeys, and found out after she had completed them that the dead body of a friend was on the train.

Once she was discussing death with a girl friend. Her friend said she had never had a death in her family. Just then the door bell rang three times. Mrs. W. said, "Maybe that's a death now." It was a telegram announcing the death of her friend's father.

She received a letter from a friend who committed suicide. The letter arrived after her friend was dead.

When she was twenty-two a young man whom she knew was arrested for running up and grabbing an actress. Later he married a girl friend of hers, and three years afterwards was found murdered in a house of ill-fame.

When she was eighteen she had a flirtation with a young man in a town she was visiting. This man was noted for the conquests he had made, but he fell in love with her. He asked her to marry him and she refused. He asked her again, with the understanding that her answer would be final. She refused again. He walked home with her and blew out his brains in front of her house. As a result of this experience she was ill for several weeks.

A lieutenant who had asked her to marry him was killed at San Juan hill.

She had a narrow escape from death once in a cyclone. The house was nearly destroyed and two nearby houses were. The horse was killed and her mother stunned.

She used to recite a great deal, for example at Chautauqua. She recited once "Death Doomed" by Will Carleton. There were three thousand people present. The professor had told her to really see the gallows when she was reciting. Says she actually did see them for an instant and felt as though she were being led to be hung.

She says that of the different recitations she used to give she cannot recall one that did not have to do with death.

She remembers such things as Tennyson's comparison of marriage to a winter funeral, and recalls Marie Corelli's book "Vendetta" begins, "I who write this am dead."

There are other features in this case that led to the culmination in a delusion of death. These I will not enter into here. It would seem to be quite evident, however, from this rich experience, that the subject of death was held before her mind very prominently throughout her entire life; that her life must have been distinctly colored by these numerous, often highly emotional experiences, and that later on it was a matter of comparative ease, an issue that might almost have been expected, for the psychosis to take up this material and use it in weaving a delusional system.

It is hardly open to question that this is exactly what happened. All of these experiences were obtained from this patient by the method of free association with her delusion as a starting point, so that it is clear that they all had associational relations with the delusion. The delusion then bears at least a similar if not the same relation to the several experiences as did the snakes of her dream to the actual snake experiences—it is over-determined. The delusion was brought about as a result of tendencies, pressures from many different directions. It has the value of an over-determined idea, an over-valued idea, a hyper-quantivalent idea or a dream thought continued in the waking state. The precipitating reagent that brought all this material together so that the delusion of death issued therefrom I will not discuss.

The thought I wish to convey is that no idea, no desire, no impulse, no action of any sort whatever but what has its sufficient cause, and that cause, too, in the realm of mind.

Folk-lore

There has recently been an attempt made to apply to folk-lore the principles that have been brought out in the study of dreams and in the psychoanalysis of the mentally deranged. The dream as related, the obvious, or as it is generally called, the manifest content of the dream, is but the façade behind which one finds the essential, that is to say, the idea of the dream or the latent

content. Similarly with the psychoses, and in fact with any mental fact that is not most simple. To follow the indications of the obvious is only too often to go astray.

The study of folk-lore, the fairy tales, myths, and legends, has led to conclusions of the same character as the study of dreams and the psychoses by psychoanalysis.

The principles of wish-fulfilment and of symbolism appear characteristically in the various fairy stories, fables and legends. Ricklin[5] particularly deals with these principles in relation to such fairy stories as are found in Grimm, the Russian fairy stories, and the Icelandic sagas. He particularly lays stress upon the appearance of certain similar features in all these stories, no matter what their origin. There appear to be some common features that are more fundamental than race or environment. He traces these fundamental features to certain infantile psychological characteristics.

Abraham[6] endeavors to relate the subject matter of dreams and myths. He calls attention to the results of the analysis of dreams, namely, that if a considerable number of dreams are analyzed in a large number of persons it will be found that certain dreams are common in their essential characteristics, that is, are fundamental and seem to belong to the race. The analysis of these dreams shows that in each instance they have their root in childhood experiences. Now over against these facts of analysis of dreams he takes up for discussion the Prometheus saga, the birth of Moses and of Samson, particularly discussing the myth of Prometheus. He applies to the elucidation of these myths the same principles which Freud has brought to bear in his analysis of dreams. He discovers as a result in all the myths funda-

[5] Franz Ricklin: Wunscherfüllung und Symbolik im Märchen. Schriften zur angewandten Seelenkunde. Zweites Heft. Franz Deuticke, Leipzig und Wien, 1908.

[6] Karl Abraham: Traum und Mythus. Eine Studie zur Völkerpsychologie. Schriften zur angewandten Seelenkunde. Viertes Heft. Franz Deuticke, Leipzig und Wien, 1909.

mental, underlying common factors which are hardly varied even superficially in their expression. These fundamental, underlying factors are the same underlying factors that were found in the fundamental dreams. These fundamental dreams which have their origin in the childhood of the individual are therefore in every way analogous to the myths which have their origin in the childhood of the race.

Rank,[7] in his study of the myths relative to the birth of heroes, especially Sargon, Moses, Karna, Œdipus, Paris, Telephos, Perseus, Gilgamos, Kyros, Romulus, Heracles, Jesus, Siegfried, Lohengrin, shows that in these myths we have the same psychological mechanisms that go with the dreams and fantasies of childhood. The childish dreams are egocentric. The child occupies the center of the stage and the events of the dream serve for his aggrandizement. In the same way the people in explaining their origins have traced them back in each instance, mediately or immediately, to a god-head, serving thus to aggrandize themselves.

These studies all tend to show that the human mind reacts according to certain fundamental principles no matter under what conditions or circumstances it may, for the time being, be placed. Even if the several authors had not suggested or endeavored to demonstrate what that principle was the remarkable similarities, amounting in many instances almost to identity, which they have pointed out in the folk-lore of widely different races and separate peoples would indicate that there must be such a principle to account for such results.

In the face of such a principle we would expect to find here, in the realm of mind, as elsewhere in the course of bodily development, that there would be certain relations, certain similarities, between the development of the child and the development of the

[7] Otto Rank: Der Mythus von der Geburt des Helden, versuch einer psychologischen Mythendeutung. Schriften zur angewandten Seelenkunde. Fünftes Heft. Franz Deuticke, Leipzig und Wien, 1909.

race. This is shown in the similarities between the fundamental, common types of dreams and myths. There is then a childhood of the race which has a certain likeness to the childhood of the individual. The principle is a well-known one in biology—ontogenesis epitomizes phylogenesis.

CHAPTER IV[1]

THE "COMPLEX"—TYPES OF "COMPLEX" REACTIONS—MODES OF EXPRESSION—GENERAL CONSIDERATIONS

The term complex as used in this chapter is comparatively new but like most new terms it does not correspond to an altogether new idea. It is but the recent German clothing of an idea that has found expression for many years in France and later in this country under the designation of "dissociated state." With the advent of the theory of the complex, however, the study of what had formerly been called dissociated states received a new impetus and as a result, complex, as used to-day, has a considerably different connotation than dissociation.[2]

In order that we may approach the discussion of the "complex" logically and for the purposes of clearness in presentation it will be worth while to introduce the subject by still further illustrations of mind as adaptive mechanism.

True to this characterization it is constantly exhibiting adaptive phenomena. While we all recognize those more patent adaptations of the individual, mental in origin, whereby he adjusts himself to the social conditions in which he lives, adopts the customs, observes the conventions, and obeys the laws, we hardly appreciate the extent and the minute detail to which efforts of adjustment are carried under circumstances where they are not quite so obvious.

[1] This chapter was printed, substantially as it appears here, under the title "The Theory of the 'Complex,'" in the Interstate Med. Jour., April, 1909.

[2] Janet: The Mental State of Hystericals. (Trans.) New York, 1901.
Sidis: Psychopathological Researches in Mental Dissociation. New York, 1902, Boston, 1908.
White: The Retraction Theory from a Psychical Standpoint. Proceedings Am. Med. Pysch. Assn., 1899, and Arch. of Neurol. and Psychopath., 1901.

Some years ago during a vacation trip abroad I saw for the first time the Alps. My drive over the Furka Pass was a revelation of the most gorgeous scenery I had ever beheld, but I was nevertheless disappointed. The mountains did not seem nearly so stupendous as I had pictured them to my "mind's eye." My companion who had been through the Alps many times insisted that I was drawing entirely erroneous conclusions as to distances. But I knew better, for could I not *see?* However, he was so positive in his statements, that I "lay about" with my eyes for proofs to disconcert him. I no sooner did this than I began to find that I was wrong—not he. Distances that had seemed insignificant were thousands of feet, and mountain peaks where I was sure I could have seen a man, had he been standing there, proved to be at such an altitude that a man would have been lost to vision as an insignificant speck against a neutral background long before reaching them. The marvelous grandeur of the Alps was beginning to unfold itself before my vision. The character of the images on my retina had not changed but it took my mind some time to adapt itself to these new circumstances and surroundings, some time to realize—*to see*—the stupendous heights which were presented to its wondering gaze for the first time.

In many cases the adjustment is not so readily made nor is the difficulty at all appreciated. Those who are fond of music and who are affected by a voice know how tiring a recital may be if the singer is, for any reason, unequal to the proper rendering of a difficult piece and must make a very constant and very evident effort in the interpretation. The listener finds himself unconsciously trying to assist, his muscles at times actually tense, and if he is a singer he may actually go home with a throat tired out by his efforts to assist the artist in reaching high notes and sustaining difficult phrases.

So, too, we get a feeling of unrest from certain illy balanced structures. The Greeks recognized this in their architecture. The Greek column is made bulging in its middle and is thus rein-

forced at a point which, in a column with straight lines, seems weak and therefore gives a sense of unpleasantness to its contemplation.[3]

This consideration of mind as adaptive mechanism is necessary in order to understand its various modes of reaction under different conditions. Here as elsewhere in natural science we are most often assisted in understanding difficult and intricate mechanisms by a study of those cases in which, for any reason, the machinery is out of order, and so a few of the simpler examples, particularly those where the adaptation fails, are worthy of note as forming a natural introduction to the subject of this chapter.

Whatever it may in essence be, the mind has its limitations and restrictions which in every-day life must be observed. Like any mechanical force its operations cannot be spread efficiently over a wide area. To accomplish results the attention must be centered on the work in hand to the more or less complete exclusion of other and distracting influences. The college professor who takes out his watch to observe the time and then calmly tosses it into the nearby lake, or while pondering over a mathematical problem runs into a cow and raises his hat politely with a "beg pardon" are familiar examples of the defects of conduct resulting from this conservation of mental energy—its restriction in narrow channels—the so-called absent-mindedness.

Of a considerably different type is the case communicated to me of a young man who as a child had been disagreeably affected by seeing some criminals and who all through life thereafter would walk any distance out of his way to avoid passing a prison or a jail. Similarly the case of a child who was frightened by a false face and always thereafter had a marked dislike for a homely countenance. Mosso[4] gives the interesting reply of an old soldier to the query as to what his greatest fears had been. He said: "I have only had one, but it pursues me still. I am

[3] Judd: Psychology. New York, 1907.
[4] Fear.

nearly seventy years old, I have looked death in the face I do not know how many times, I have never lost heart in any danger, but when I pass a little old church in the shades of a forest, or a deserted chapel in the mountains, I always remember a neglected oratory in my native village and I shiver and look around, as though seeking the corpse of a murdered man which I once saw carried into it when a child, and with which an old servant wanted to shut me up to make me good."

These last three examples all show modes of reaction to disagreeable conditions in the environment and were all developed upon the basis of states of fear.

In this connection it is in order to make a passing comment on the much worn subject of the relation of body to mind (discussed in Chapter I). The fact for us to consider is that the individual reacts to external conditions not simply from a physiological or from a mental basis but that he reacts as a whole—as a biological unit—and in this reaction are both physiological and mental elements, sometimes one and sometimes the other, dominating the picture. Now in fear, for example, we know that there are many physiological changes—the tachycardia, dilated pupils, tremor, relaxed sphincters, respiratory and secretory disturbances—but the only reason we give it a name that applies primarily to the mental rather than to the physical state is simply because the mental facts so overshadow the others that they are quite overlooked.

This fact, that mental reactions, illustrated by the extreme case of fear, are fundamentally reactions of the whole individual, is important to bear in mind and serves to explain many otherwise inexplicable phenomena in psychopathology and to indicate the directions in which explanations for still others may be found.

So far all my examples are from normal reactions. The way to the abnormal, however, is not far and these are, of course, what interest us most. We see in all these cases that ideas, tendencies, inclinations, fears, disappointments, are capable of bring-

ing about mental reactions that are manifested entirely apart from the individual's volition. The forgetting, a sudden religious fervor, a pleasant dream, perhaps, come about without any reason so far as the subject knows.

Take for example the case of Irène, cited by Janet.[5] This poor girl, living in a garret in abject poverty, nursed her mother through a long illness with consumption ending in her death. During two months she watched her mother gradually nearing her end and was at the same time forced to work at sewing to get a little money for the bare necessities of life. Her mother died and in her anguish she tried to revive the corpse which during her manipulations fell to the floor and was only lifted back to the bed with great exertion. After all this was over Irène forgot completely not only her mother's death but the amnesia was retrograde and she did not even remember her illness. She said, "I know very well my mother must be dead since I have been told so several times, since I see her no more; but I really feel astonished at it. When did she die? What did she die from? Was I not by her to take care of her? There is something I do not understand. Why, loving her as I did, do I not feel more sorrow for her death? I can't grieve; I feel as if her absence was nothing to me, as if she were traveling, and would soon come back."

This example from the realm of hysteria, gives us a good idea of what is meant by a complex. This term is employed to designate a group of ideas (constellation)[6] clustered about, constellated as it were, a central event, which event has a large content of painful emotional coloring. You will see how this describes our cases if you will review them for a moment. All of the acutely painful circumstances of her mother's death and even such associated ideas as those connected with her early illness are dropped in toto from Irène's memory.

The special thing to note is that the ideas that are thus asso-

[5] The Major Symptoms of Hysteria.
[6] See Chapter I.

ciated together are grouped about a certain event and that this event conditions a highly painful emotional state.

It is to such a constellation of ideas, cemented by painful emotion, that the term "complex" is applied and when the complex produces a mode of reaction (in this case amnesia) without the patient being aware of its existence it is spoken of as *dormant.* Let us, however, go a little further in this direction. Muthmann[7] has compared the complex to an abscess and the defensive reactions to the limiting wall of fibrin. I think, however, that it were better compared to a localized inflammation with its surrounding area of tenderness. Take for example the lover who has had a quarrel with his mistress: He enters into conversation with a lady when a chance expression, a vague suggestion of the odor of a well known perfume, a something equally as trivial reminds him of her and the quarrel, he flushes, becomes confused, changes the topic of conversation, leaves unceremoniously and otherwise shows that the sore spot has been touched and the defense reactions are brought into play to remove him from the source of irritation. This method of reaction is quite common and typical of the dormant complex with large emotional content.

We typically find evidences of the complex then under circumstances in which the mental reactions are aimed at an effort of adjustment to inimical, disagreeable, disintegrating factors in the environment. Under such circumstances we find a series of protective reactions, guarding the mind against these inimical influences, which are just as well defined as the protective colorings of insects are the defense reactions of the body against infection.

Types of "Complex" Reaction

(*a*) *Forgetting*

Of this class of reactions the various types of forgetting are the most pronounced. Painful, disagreeable experiences, the mind in its protective, conserving efforts tends to avoid, to put aside,

[7] Zur Psychologie und Therapie Neurotischer Symptome.

to consign to the limbo of the forgotten. With all the thousand and one things to be done the painful facts of life must not be permitted to occupy the center of the stage—they must give way to the business of the hour. Take, for example, the case of the young man cited by Jung.[8] He suffered the pangs of unreciprocated love—the young lady married another man. When later he came to have business relations with his rival he found himself always unable to call his name and had repeatedly to ask it of others in conducting his correspondence. Or take the case cited by Maeder.[9] A young man sees a performance of Samson and Delilah; it awakes a series of painful memories. A few weeks before he had read the review of a book to his fiancée, which treated of the indelible impressions of the first love on a woman. He thinks of the possibility of a separation from her and later the whole event, together with the contents and authorship of the book, very kindly drop from his memory. Later they are revived under the influence of an optimistic mood which they are incapable of affecting.

(*b*) *Compensatory*

Another type of reaction which is wisely provided for in the general scheme of things is the "compensating." For the sadness and sorrow, the blasted hopes and disappointments, the trials and tribulations, the mind again comes to the rescue. We are familiar with the way in many cases. We understand the young woman, disappointed in love, who takes herself to a nunnery and devotes her life to the service of religion. We have all seen men under similar circumstances plunge into the distractions of a strenuous life, or not infrequently into the elusive forgetfulness of alcohol or opium. The ideal occupation of the disappointed woman is that of a nurse—for while it brings forgetfulness in new interests

[8] Ueber die Psychologie der Dementia Præcox. (Translation is published as No. 3, of the Nervous and Mental Disease Monograph Series.)

[9] A la Psychopathologie de la Vie Quotidienne. Archives de Psychologie. Tome VII, No. 27. (February, 1908.)

it likewise affords compensation by giving play to the maternal instinct.

How large a part these compensations play in daily life, what a tremendous force they are against the "slings and arrows of outrageous fortune" we can hardly appreciate. It is well worth while to read the philosophy of the great German immoralist from this standpoint. Nietzsche founded his explanation of Christian ethics upon the theory of compensation. The Jews, a weak and persecuted race, made of necessity a virtue and glorified humility and the "poor and lowly in spirit." This, the "slave-morality" shows us on its obverse side a fully adequate compensation for the sorrows of life, not in this world, but by life and a "joy everlasting" in the next. Whatever may be said of Nietzsche's philosophy we surely know many persons whose path is made easier among many troubles by an abiding faith that all things are for the best, and everything will ultimately come out all right, if not in this life then in the life to come.

Among the very common types of compensation are the wish-fulfiling dreams and the wish-fulfiling deliria. We are all more or less familiar, for example, with the very remarkable life of imagination which children lead, how they live in a world of fancy peopled by the creations of their own minds and teeming with events of the most dramatic interest. For hours these little ones at play will live in a world all their own, associated with kings and queens and waited upon by mighty soldiers, and in their hours of sleep they find in the land of dreams their hopes and ambitions all realized. The little boy dreams he is a motorman, or a policeman, the little girl reigns as a beautiful princess, so with these wish-fulfiling dreams added to the day-time fancies the world becomes a beautiful place to live in even under circumstances in which we older ones find little that makes for happiness.

Quite parallel with this example, we find in the realm of the abnormal, that many cases of the most profound melancholia have compensatory dreams. If they are parents, for example, they

dream of being back with their family, surrounded by their children and those they love, and so the misery of the day often finds relief in the visions of the night—certainly a very practical, and undoubtedly efficient, so far as it goes, defense reaction against conditions that tend to destroy.

Or take another case cited also, I believe by Janet,[10] in which a young girl about to be married is deserted at the altar by her fiancé. She falls into a wish-fulfiling delirium[11] in which all the events of the marriage as it would have occurred, take place. What I have called a vicarious psychosis. The patient in order to get what she wants out of life and what she had expected and prepared for, resorts, so to speak, to the device of a psychosis.

(*c*) *Mental Attitudes, Moods, Character*

We are surrounded at all times by innumerable examples of the effects on conduct of suppressed disagreeable or painful emotional states. Take for example the man who is past middle life and with whom the subject of his age is a somewhat tender point. See how by his attitude he resents being helped on with his coat. He refuses to acknowledge to himself that time has wrought any changes and he resents such a suggestion from another no matter what the kindly motive behind it.

We see again these defense reactions toward special situations shown exceptionally well by the deaf who insist upon appearing to understand what is said to them though perhaps hardly hearing a word. They attempt by their attitude to conceal their infirmity and thus ward off criticism of their defect and consequent decreased efficiency.

Persistent moods are also often conditioned by dormant, submerged complexes. That witticisms, jokes, puns, are means of side-tracking painful emotions is a commonplace, while the sad and melancholy mien of the professional funny man is proverbial.

[10] I have been unable to verify this reference.

[11] The word delirium here is used in the sense given it by the French, namely, to apply to the sum of the patient's delusional experiences.

The anecdote is told of a noted Parisian entertainer who sought the advice of a physician for great depression of spirits. The physician advised his patient to go to the theater and hear a certain wonderful comedian for, as the physician said, "Monsieur X. can make any one laugh." His patient replied, "Alas, doctor, I am that unfortunate individual myself."

And so complexes not only dominate special attitudes, and condition moods, but if persistent, deep-seated, and continuous, they are often at the bottom of the prominent traits of character. These prominent character traits are especially well seen in those cases in which the complex has been constellated by a painful emotion of sexual[12] origin. The stereotyped example of the "old maid" scandal monger is a case in point. Deprived of that great boon to woman, maternity, robbed of love, living a life of bitter disappointment and unfulfilment, if she mayhap has a distinctly sexual longing she takes this method of adjustment, this method of approach and contact. The reading of an erotic novel would be distinctly improper, and if she were discovered would be adversely criticised, but the scandalizing of her neighbor is a highly respectable proceeding and keeps her quite within the conventions, and so the delectable morsel is rolled over and over again and as life becomes more bitter, as fulfilment becomes more and more impossible so does her resentment show more and more aggressively, more and more openly.

The phrase "misery loves company," takes its origin from the desire of those who have failed to pull others down to their level. It is an expression of the jealousy, envy, resentment, that they feel for the successful, for if they cannot succeed literally they can at least play at it in their fancies. Compensation is approached by a mental trick, a deception practiced upon one's self.

[12] The word sexual is not used here in the narrow sense in which it is often employed but with the broadest possible meaning. It refers not only to the physical relations between the sexes, but to the most distant and most indirect mental and emotional reverberations. It is used to include a domain much more extensive than that usually comprised in the word "love."

Modes of Expression

We have already seen in our previous examples several means by which the complex asserts its presence and seeks expression. We have seen how, in hysteria especially, the means employed is often amnesia for the painful occurrences.[13] In certain conditions of depression the dream comes to the rescue, while in certain other states *displacements* occur and methods of expression are chosen to take the place of those denied.

Quite frequently the mind seizes upon a single feature in connection with a painful incident and the complex reaches expression through this alone. This feature thus becomes the complex indicator.

One of my cases, a young girl, had received a severe shock by the suicide of a young man at a party. She saw the blood and was deeply affected. The memory of the whole affair dropped completely out of her mind but it was only necessary to show her something red to produce the feeling of fear. I sent her on an errand one day to a ward carpeted in red. She quickly came running back to me, trembling, crying and frightened, although she could not explain why she was so affected.

The case of Janet's[14] (cited in Chapter II) of the woman who lost a very dear friend by death shows a very similar condition. She only retained a souvenir of her friend—a valuable old dog. Two years after his master's death the dog died. The lady had a very profound emotional disturbance as a result and later suffered from hysterical seizures which might be brought on by simply hearing a dog bark in the street. The case shows well how thoroughly the outposts can be sentried to protect the vulnerable point. Not only the barking of a dog but certain words might bring on an attack so she forbade the use of them in her presence. The words, "love," "affection," "happiness," are exam-

[13] White: Mental Dissociation in Psychic Epilepsy, in Sidis: Psychopath. Researches.

[14] Mental State of Hystericals.

ples. She forbade also that any date be mentioned before her—in fear of being reminded of a certain date she forbade the mention of any.

Not only are such incidents or accompaniments singled out as complex indicators as are illustrated in these two cases but quite frequently the motor accompaniments become much exaggerated and in attacks so overshadow every other symptom that the cases seem to have lost their essentially mental characteristics and in fact may be mistaken for epilepsy.

Sidis[15] cites the case of a young man who had epileptiform attacks that manifested themselves by "shaking spells." The shaking began in the extremities and soon involved the whole body. Sometimes he fell down shaking and trembling all over. The attacks were traced to his experience as a child when he was forced to sleep in a dark, damp, and bitterly cold cellar.

This last well illustrates the association of the physiological with the psychic. These physiological disturbances are constellated with the mental and the two classes of phenomena recur together. We have already seen that with emotional experiences there always go along certain physiological disturbances. In these cases the physical appears in the foreground and the mental, while it exists, is not apparent on the surface. But why should this prominence be given the physical? Why should not the emotional expression find its natural, mental, channel of outlet?

The answer to the question why the complex does not express itself by mental phenomena primarily is that the whole affair is a defense reaction, a protective device for repressing the complex, for keeping painful mental facts out of consciousness. These repressed emotions must, however, find an expression somehow. Their episodic manifestations in crises finds an explanation not unlike that for the epileptic attack. The complex with its large emotional content being repressed, dissociated, falls out of asso-

[15] Studies in Psychopathology. Boston Med. and Surg. Jour., March and April, 1907.

ciation with the other facts of mental life and so its accumulated energy finds no easy channels of exit. The complex therefore is dynamogenic and when sufficient energy has been accumulated to overcome resistance, to break down barriers, an explosion—an attack—takes place. In this attack the energy set free naturally flows along lines of least resistance. If we consider the various activities of consciousness as constituting a hierarchy we will see that the psychomotor levels are relatively low, so that as the tendency in attacks is for the energy to seek lower rather than higher levels, these psychomotor outlets furnish the channels of least resistance. Ideas tend always to expression. Expression is mainly a matter of conduct and so largely muscular. We find, therefore, convulsive phenomena—*conversions*—quite the rule.

Distinct sensory types of reaction may also be found and when sensory disturbances come on apparently spontaneously and precede the crises the similarity to epilepsy with a sensory aura is often marked. One of my patients had attacks resembling petit mal each time preceded by a headache. She had during an early seizure fallen and hurt her head. Another case had psychic attacks preceded by a sensation of green. His original traumatism occurred on a stage carpeted with green baize from which he was carried, face downward.

A more baffling method of manifestation of the complex still is the symbolic. One of my patients[16] in his delirium when asking for a cigarette used a peculiar sounding expression which I discovered later was a foreign word. The explanation of the application of this word as the name for cigarette transpired when I discovered that he had upon one occasion been to the races and won considerable money by betting on a horse of that name. Afterwards he had indulged himself in some very expensive cigarettes with the money thus won. The connection is obvious—the cigarette was symbolically represented by the race horse.

Jung[17] cites a very instructive example. "A gentleman wish-

[16] Case cited in Chapter II.
[17] Loc. cit.

ing to recite a poem beginning 'a pine tree stands alone, etc.,' with the words 'with white sheet'" he forgot everything. This seemed so peculiar that Jung got him to reproduce what came into his mind with these words. The following very significant series of associations resulted. "White sheet makes one think of the cloth for the dead—a linen cloth with which one covers a dead person—(pause)—now I think of a near friend—his brother died quite recently—he is supposed to have died of heart disease—he was also very corpulent—my friend is corpulent too, and I thought it might also happen to him—probably he does not exercise enough—when I heard of this death I suddenly became frightened, it could happen to me, as we in our family are predisposed to obesity—my grandfather also died of heart disease—I too find myself somewhat too corpulent and have therefore within the last few days begun treatment for reducing fat."

Here we see how the repressed anxiety which this gentleman had about his condition resulted in a reaction while reciting a poem in which he saw himself symbolized by the pine tree enveloped in its white sheet of snow. Jung also explains the wish to recite this poem as based upon a desire to effect, in this symbolic act, a discharge of the complex tension.

If this explanation of Jung seems far-fetched, think again of some of the phenomena of wit. We all know how frequently the man whose life is filled with sorrow and disappointment becomes noted for his witticisms, while the explosion of a jumble of puns, thin jokes, and "airy nothings" is a method belonging to the stock-in-trade of every "emotional actress" to use to turn away suspicion when surprised in a situation she cannot explain.

These *displacements* of emotional expression into channels other than the normal and usual ones are quite common. The transfer may become permanent and often takes on a symbolic character. Take, for example, a certain type of childless woman who lavishes all sorts of affection upon dogs, cats, or birds. Here the nature of the repressed complex is quite evident, while the cat, or the

dog, as the case may be, becomes symbolic of this complex and so may be considered as a symbolic complex-indicator.

An excellent example of symbolism in dream consciousness is given by Freud.[18] In this case the dreamer is symbolized by a powerful brown horse that was being hoisted by a thick belt to a great height. Suddenly the belt broke and the horse was precipitated to the ground but soon rose and galloped away. The strength of the horse stood for the power of the dreamer to work, the ascent to dizzy heights his ability to succeed, the belt indicated that he could not succeed by his own efforts alone but must have help, the breaking of the belt showed failure when this influence was withdrawn, but the fact that the horse was not killed but got up and galloped off symbolized his indomitable energy and ability to rise again when once defeated.

General Considerations

These *displacements, conversions, symbolisms* and other phenomena form interference complexes with each other and with the train of thought and produce very complicated results that often become practically impossible to unravel. It is really wonderful, however, how successful psychoanalytic methods applied with great patience have been. In Jung's[19] classical case of paranoid dementia præcox the apparently incoherent remarks amounting at times to "word salad" and the neologisms of the patient which she freely made use of, were explained in a way little short of marvelous. He was able to explain, for example, the expression "double polytechnic," which was frequently used by the patient, as an expression standing for the highest art and wisdom. The words "Hufeland" and "unhufeland" are found to refer to a once celebrated doctor by that name while the sentence "I affirm a million Hufeland to the left on the last fragment of earth on the hill above" Jung says is a metaphoric paralogic condensation

[18] Cited by Jung, loc. cit.
[19] Loc. cit.

for what to a normal mind would be expressed approximately by "For the bad treatment of the physicians which I have to endure here and with which I am tortured to death, I claim a high indemnity."

And so we see how the mind develops certain modes of reaction which are aimed at adjustment with surrounding conditions or as we often say "getting square with events." We see, too, how, when disease has pulled the mental superstructure to pieces and it comes tumbling down in ruins, the same effort at adjustment continues, but it is, of course, expressed in a much more imperfect and incomplete way. Such studies as I have indicated lead us to the inevitable conclusion that nothing mental is fortuitous, that for every mental fact, be it the most trivial or apparently meaningless expression, there is an adequate reason. If the theory of the complex had done nothing more than this it would have accomplished a great deal for it has given us a new outlook upon the mental factors in the psychoses. We no longer should feel satisfied with passing mental symptoms by with the remark that they are "strange," "remarkable," "incoherent" and with the use of like vague and meaningless terms. We should feel that we have a new avenue of approach, that a host of new facts have been opened up and that much can be accomplished by patient, intelligent observation and study of cases.

I feel quite sure, for example, that the patient who says to me, "Now you have a body like a young man who says he is of the prestigitis," or the other patient who says, "I have been raking away at it outside and in and inside and out again. I have tried to write poetry, but could not write any more than six fools," have both fairly definite ideas at bottom of this apparent incoherence to which their methods of expression correspond.

This whole matter harks back to the fundamental necessity of having our mental facts in their proper setting if we are to understand them at all. A very simple incident will illustrate what I mean. I had called at a home one evening to see a patient when

I noticed that the nurse, a Miss B., who had had charge of the case, had been replaced. I asked where she was and was informed that she had gone in conformity with a previous arrangement to take care of Mr. X.'s daughter who had recently been married and expected to be confined. Just then the telephone rang and some one inquired for the nurse. The young lady who had given me the information about the nurse answered the telephone and I heard her say that she had left but she could not tell where she had gone as she did not know who the people were, the nurse having failed to tell her their name. The first impression, very naturally, might well have been that my lady was indulging in that well known social evasion a "white lie," but when she returned from the telephone with the comment that it was rather unfortunate for the nurse to go away without telling her the name of the family where she was going, that she did not know who Miss so-and-so married, the explanation was perfectly clear. We cannot expect to be able to judge of mental facts in other than their mental setting, a thing, however, which we have been trying to do for long years with rather discouraging results.

From another view-point the illustration given by Jung[20] is instructive. Suppose we go into a man's office and while seated engaged in a business conversation with him a clerk brings in a paper and lays it down upon his desk. Immediately the man flies into a passion, gets red in the face, gesticulates, and uses forceful language. We wonder what ails him but when we find out that day after day, time after time, he has cautioned the clerk, told him not to do just that particular thing we can understand his behavior. The act of the clerk was simply the "last straw" that served to break the back of his self-control. And so how often in life we only see the last link in a chain of events, and how prone we are to draw conclusions which would probably be entirely different if we knew all the facts.

Another and equally instructive example in the realm of the

[20] Loc. cit.

abnormal is that of Miss P., a case of dementia præcox. She wrote the following letter to her uncle

"WASHINGTON, D. C.

Dear Uncle:

I am insane as I have been place—in the asylum in the brain favor as Uncle Bee—was once accused of being craisy over seeing to much of the Doctor intuition of being deying of death over worrying of seeing my own self Home, where I belong as I am "Eplay, in trouble all my life & Hope I re gain cinarc tonces of mind in Body & Kind show me by my own be able in Doctor Office I hope Mrs. E. & Aunt Ida I join love to all Very own to claim my own Mind bye *from*

AFFECTION NEICE SARAH."

This patient although noticeably demented presented a quite natural appearance to casual observation and despite the fact that her writing is so incoherent, talked well about simple things and answered questions with a fair showing of intelligence. I showed her this letter and asked her to read it aloud and tell me if she wrote it. She took the letter and read it with a perfectly serious manner and said that she had written it. Her whole attitude when reading the letter and being questioned about it gave no indication that it impressed her as in any way strange. On the contrary it was quite natural and she appeared while reading the letter to have a full comprehension of its contents. Here again we are not justified in coming to hasty conclusions without the proper mental setting for the mental facts. The mere fact that this letter is hopelessly incoherent and incomprehensible to us does not necessarily mean that it was to her, and her attitude while reading it certainly indicates that it was not.

I am tempted at this point to illustrate a conception of mind, which the consideration of complexes leads to, by a figure of speech. The mind cannot be conceived as consisting of or containing ideas which are deposited here and there, helter skelter, without order as the scraps of paper that are thrown carelessly into the waste basket. Quite the contrary. Ideas are grouped about central experiences, constellated as we have seen, built up into coherent and harmonious structures not unlike the way in

which bricks and stones are brought together to form buildings and these buildings are again grouped according to the purpose they fulfill, as government, business, residential, etc. The city is built according to a general, though often not very definite plan, it has its avenues of approach, its highways and byways, its systems of traffic lines communicating between the different sections, etc. The central part of the city is pretty well organized and constructed, here little change goes on, but in the outskirts new ways are being opened up and we see lying all about building material not yet assembled to form new structures. Now suppose an earthquake destroys the city—what happens? All these fine buildings come tumbling down. The walls crack and crumble and the bricks come falling to the ground. Here and there only a wall, a tower, perhaps a whole building remains standing. The foundations of all these buildings, however, remain fairly well preserved, in outline at least; it is for the most part the superstructure that has been destroyed. Now suppose we try to enter the city by the usual way, we will find ourselves almost immediately arrested by masses of debris, we will see that the streets that we were familiar with are blocked at many points, that the whole picture looks unfamiliar and that landmarks are very difficult to recognize. Here for example the foundation of a church which was razed by the shock has been buried beneath the bricks of an adjoining commercial house. All of the component parts of the city are still here but in quite different relations and in this mass of confusion only the trained eye of the old resident can see the traces of the old order of things and pick out the old landmarks.

And so it is with many of our patients, particularly our præcox cases, where the dilapidation of thought is so pronounced. The fundamental things of mental life, the foundations, remain until the last but they are often buried under masses of debris and their location indicated by ideas with which before they never had any connection. So, too, if we try to approach these cases we will

find them quite inaccessible by the usual avenues; we must take our bearings anew, draw up a new ground plan—the old one will not suffice.

Our patients live a mental life all their own, even talk their own language which is incomprehensible to us. If we are to gain access to them we must learn the avenues of approach. No attention may be paid to ordinary efforts at conversation but the use of a complex indicator may open the flood gates so that all there is left for us to do is to listen.

The differences between the sane and the insane, however, are only differences of degree, not of kind. Every process that we may divine in the insane mind has its counterpart in the sane. This is especially well seen in the manifestation of complexes that are dormant or submerged. In the insane these buried complexes determine largely the symptoms of the mental disorder, while in the sane they are often at the bottom of the moods, the disposition, the "make-up," in short the character of the individual, and it is the organized constellations that determine his actions along conventional lines, lines prescribed by training and custom.

A study of the conventions and customs, the folkways, would be very instructive in showing us the methods by which these buried constellations operate. They would show, for example, that reactions directed by them are not amenable to reason—in this respect resembling the obsessions of the psychasthenic. For example, to show respect we uncover our heads, the Orientals uncover their feet. Why is this? The reason for it lies buried in history, the foundation for their reaction has long since been hidden by a complicated and bewildering superstructure. The foundation being inaccessible it would be quite impossible to change the custom by an appeal to reason which does not reach to the root of the matter; it is not the avenue of approach.

This example reminds one of another much nearer home and more familiar. It might be facetiously referred to as the bipolar variation of modesty. I refer to the changed feeling of shame

which affects the modern society woman depending upon whether she is in a ball-room or on the sea-shore. The dictates of fashion in this instance have nothing reasonable about them and I think it would be quite easy to gain general assent to the proposition that the mere surroundings could not possibly affect the fundamental question as to the inherent impropriety of the exposure of a certain portion of the body. But even though we gained this assent we surely would not expect the custom to change as a result. The whole reaction seems ridiculous just as an obsession does because we do not know the real rationale of it. It would seem more absurd still in comparison with other peoples. For example, among the Tuaregs—an Arabic tribe of the Sahara—the men wear a veil over the mouth and would consider it improper to remove it except in extreme intimacy. It is worn while eating and not even removed to sleep.[21]

And so I might go on indefinitely with illustrations from normal and from abnormal mental life and from the realm of the social customs and usages. In the end we find that we have a somewhat broader and more comprehensive view-point of the phenomena of mind in action, a view-point I believe pregnant with many results for the future. Much has already been accomplished, as a result of the new outlook, in the way of developing methods of examination and analysis of cases, and as a corollary to these new methods we are beginning to see the way to a more rational treatment.[22]

The main conclusions to which this chapter tends are that the operations of the mind are never fortuitous—if we ever seem to see mental events that have no efficient cause it is only because we are not in possession of all the facts. Ideas neither arise spontaneously nor do they exist without having established relations with other ideas—again because of a good and sufficient reason. The relationships thus established are brought about and

[21] See Sumner: Folkways, 1907.
[22] See Chapter VI.

cemented by the emotional content of the event which brings them together and they bear thus a relation of interdependence as among themselves—they are constellated. These constellations exist as the mental counterparts of events and correspond to experiences which have emotional content. Thus do our sorrows and our pains, our longings and our desires, in fact, all of the springs for action, exist as organized though submerged groups of ideas which, from behind the scenes, as it were, direct our conduct.

CHAPTER V[1]

CURRENT CONCEPTIONS OF HYSTERIA—PSYCHOLOGICAL, PHYSIOLOGICAL, BIOLOGICAL AND CLINICAL THEORIES

The various phenomena now comprised under the term hysteria have always, throughout the period of man's history, been matters of interest, of mystery, and of speculation. It is only in recent times that it has been possible to approach the subject in a scientific way that offered hopes of getting somewhere, as it has only been in the last few years that adequate methods of investigating such problems as hysteria presents have been evolved.

The fundamental idea upon which present-day conceptions of hysteria are built is that the phenomena of hysteria are mental—that hysteria is a mental disorder—a psychosis, and not a neurosis as has been at times supposed. This idea has been of gradual growth, but has been slowly increasing until it has become a widespread conviction as a result of the constantly repeated observation that hysterical phenomena could be brought on, influenced, and made to disappear by means which in their last analysis were almost invariably shown to be appeals more or less directly to the mind.

The psychic origin of hysteria is the prevailing note now running through its theoretical consideration. There are still, however, many phenomena, especially vaso-motor, secretory, and visceral upon which the several theories break. Some very easily escape from the difficulty by excluding such symptoms from their conception. Supposing hysteria to be a mental disorder, certain symptoms occur which are not mental, therefore, they are not hysterical—an excellent example of an argument in a circle.

[1] This chapter was printed, substantially as it appears here, under the title "Current Conceptions of Hysteria" in the Interstate Med. Jour., January, 1910.

Others, because of these supposedly physical disturbances, prefer a theory more physiological than psychological.

The end result of all this seems to be quite clear—namely, that hysteria has not yet been defined, its inclusions and limitations are yet unknown.

To discuss a theory of an indefinable subject might be considered premature except that numerous theories actually do exist to account for the phenomena, and as a matter of fact the theories themselves are after all attempts at explaining the nature of hysteria, so that the discussion of theory goes along hand in hand with the attempt at definition.

In this chapter it is my intention to discuss very briefly the most prominent of the hysteria theories, those especially which throw most light on the hysteria question. These theories can be divided, according to their predominant note, into psychological, physiological, biological, and clinical.

I will leave out of consideration, because I think them unimportant, the many attempts to explain hysterical phenomena from the purely physical side, such as the various chemical theories, the theories of auto-intoxication and the like.

Psychological Theories

The strictly psychological theories have much in common and are the best known and most widely accepted. We can probably come to an understanding of these theories best by way of certain experimental work done on hysterics a number of years ago, especially by Binet.[2]

Binet's most significant work was done with the hysterical anesthesias. For example he placed a patient with anesthesia of the hand and arm so that the anesthetic arm was passed through a screen which shut it and the hand out from the patient's view. If now the skin of the hand was pinched or pricked, or the fingers

[2] Binet: On Double Consciousness. Chicago, The Open Court Pub. Co., 1896. Also Alterations of Personality. New York, D. Appleton & Co., 1896.

seized and moved the patient felt nothing and could give no information as to the position of the fingers which were hidden from her sight. If a pen were placed in the anesthetic hand it was immediately grasped in the appropriate way between the thumb and index finger and the hand assumed the position of writing. This though the patient had no knowledge of what was going on. Let the experiment be still further complicated. With a pen in the anesthetic hand the hand was made to trace a word but in so doing an error was made in spelling. When this was done the hand would sometimes, still without the patient's knowledge, re-write the word correcting the error.

A still further elaboration and we have the phenomena of automatic handwriting. Not only will the anesthetic hand as above trace words, but some subjects will write page after page with no knowledge of what they are going to write and no conscious effort. Such writing is as novel to the subjects themselves when they come to read it as to strangers. The writing often contains information which is entirely new to the patients and as to the knowledge of which they can give no clue.

These experiments and many others of similar kind prove conclusively that the anesthetic hand is actuated in its movements by an intelligence. Binet concluded that there was a condition of double consciousness, that is, two streams of consciousness flowing side by side, relatively independent, and separated by amnesia.

This is well shown in one of my own experiments upon a case in which this class of phenomena was studied by Dr. Sidis[3] and myself.

The subject in her normal state was given a book; she was directed to read aloud to some one in the room, in a slow, clear tone, taking pains meanwhile to understand clearly what she was reading. While she was reading I approached her from behind and spoke to her in a low tone of voice, directing her to raise her

[3] Sidis and White: Mental Dissociation in Functional Psychosis in Sidis; Psychopathological Researches. New York, G. E. Stechert, 1902.

right hand to the table; the hand obeyed; I placed a pencil in the hand, and the hand grasped it. Now any question that was propounded to her was answered in writing while she continued to read aloud. If a suggestion of a visual hallucination was given to her, the hand wrote, in reply to a question, that she saw the thing suggested. It was noticeable, however, that the two processes interfered with one another, and that while one was carried on at its best the other was interrupted and hesitating. When she stopped reading, she had no recollection of anything said or suggested, and her remembrance of what she had read was rather indistinct. If, however, she was hypnotized after one of these experiments, she remembered everything said and what her written replies had been. When questioned once during this period of distraction about an hallucination of a rose which had been given her in a former hypnotic state, and asked if she remembered it, the hand wrote "Yes," asked what she did with it, the hand wrote "I gave it to Mrs. S.," which was a correct answer and showed complete recollection of the hallucination. Questioned after she finished reading, she had no recollection either of the hypnotic state or of the answers her hand had written.

Here we again have evidence of two streams of consciousness separated by amnesia. The experiments also indicate that areas of hysterical anesthesia, in this case anesthesia of the hand, are connected with the submerged stream of consciousness, and further that the hypnotic state is such a submerged stream temporarily brought to the surface during hypnosis but sinking back again during the waking, normal state.

Similar demonstrations were made with other anesthesias. For example, retinal anesthesia. Objects so placed as to be reflected on the anesthetic area, could of course not be seen, but it was shown both by automatic handwriting, and by hypnosis that the patient actually had full knowledge of them.

With this introduction we are in a position to take up the modern dissociation theories of hysteria. The first one I will

describe will be that of the eminent Parisian psychologist, Dr. Pierre Janet.

Janet[4] believes hysteria to be entirely a mental malady. This conception he clearly outlined in his address on the subject at the Amsterdam Congress in 1907. There and in his latest work[5] he sums up his views and defines hysteria in purely mental terms.

For him there exists in consciousness a region below, if such a term be permissible, the normal waking, or personal consciousness, which is called the subconscious. Groups of ideas may exist in this, so to speak, twilight region without being at all clearly perceived by the individual—in fact without being known at all, and yet they may operate to produce results very much as if they were the subject of voluntary attention. The hysteric is an access of delirium lives through fancied experiences about which he knows nothing when he "comes to"; he has an amnesia for all of these events.

The hysterical amnesia does not confine its manifestations to such conditions but invades the details of every-day life. The patient who is sent on an errand forgets what she is sent for before she gets half way to her destination. This is a simple, but common example. Janet would explain this by a disorder of attention. The directions are imparted to the patient but they are not acutely attended to and drop at once into the region of the subconscious—they are forgotten by the waking, personal consciousness. The anesthetic arm is explained in the same way. The patient does not attend sufficiently to the sensations from the arm to perceive them.

The hysterical symptoms then are dependent upon an increase in the field of the subconscious and correspondingly in its activities dependent upon a defect of attention and resulting in a narrowing of the field of the personal consciousness. In fact the

[4] Janet: L'Hysterie maladie mentale. 1^er^ Congrès International de Psychiatrie, de Neurologie, de Psychologie et de l'Assistance des aliénés. Amsterdam, 1907.

[5] Janet: Les Névroses. Paris, 1909.

narrowing of the field of the personal consciousness and the defect of attention are different sides of the same phenomenon. Events do not come into the clear light of the acute waking self, they are not perceived within the field of the attentive, personal consciousness, they fall outside into the subliminal, subconscious region.

It will be seen then that this process of enriching the subconscious does so at the expense of the personal consciousness. It is the synthesis of mental processes into a coherent whole that constitutes the personality. The hysterical process causes a splitting up, a disintegration, or as Janet says, a doubling of the personality. He thus comes to the definition of hysteria as "A form of mental depression characterized by the retraction of the field of personal consciousness and by the tendency to the dissociation and the emancipation of systems of ideas which by their synthesis constitute the personality."

A prominent feature of Janet's theory is that he believes the hypnotic state to be the same thing as an hysterical somnambulism. In other words, to be suggestible is to be hysterical and only hysterics can be hypnotized.

The essential things in Janet's theory are then the tendency to disintegration, splitting up, or as he says doubling (dédoublement) of the personality, its outward sign the presence of a pseudo-amnesia due to defect of attention, and the identity of the hysterical and the hypnotic states based upon the common factor of suggestibility.

Sidis' theory is similarly a dissociation theory. Sidis, however, lays more stress upon the process of dissociation, and the independent, automatic activity of the subconscious ideas or systems.

The crises of hysteria are due to the automatic activity of these dissociated ideas, or better, as Sidis[6] says, constellations. Ideas alone have no existence, not only are they indissolubly bound up with a feeling-tone, but they necessarily exist only in association.

[6] Sidis: Psychopathological Researches. New York, G. E. Stechert, 1902.

To a group of ideas associated together, or more properly to a mental state grouped about a central idea or event, Sidis gives the name "constellation." It is these constellations that exist dissociated and more or less independent in the subconsciousness.

The dissociation having once begun tends to continue and new material is constantly being added to the subconsciousness by further cleavage and also by assimilation by this state itself as it begins to lead an independent existence—secondary state. Thus the tendency is for it to continually grow, and when that growth takes place by repeated cleavage, to grow at the expense of the personal consciousness.

These split-off constellations tend always to become dynamic. In the normally functioning mind there is constantly going on a "battle of motives," a struggle for supremacy among the different tendencies present, not unlike the struggle which has been described among the physical elements of the body and which leads to certain structural types. The result is that differences of tension—psychological tension Janet would probably say—tend to occur in the various systems. As these systems are all connected intimately by association, discharge takes place along the lines of least resistance and so drains the systems at high tension —inhibition by drainage as McDougall[7] would have it.

Now in these dissociated states, separated from the personal consciousness by a plane of cleavage, energy accumulates, and because of an absence of avenues of association through which drainage can take place, accumulates to the point of explosion and breaks over the gap separating it from the upper or personal consciousness producing a paroxysm.

On the other hand, during periods of inactivity of the upper consciousness, as in hypnotic, hypnoidal, and dream states, the secondary states tend to assume the ascendancy.

Whether the secondary states ever assume the dignity of a per-

[7] McDougall: The Nature of Inhibitory Processes Within the Nervous System. Brain, 1903.

sonality or not is merely a question of degree. They tend to organize and to grow and if the process keeps up it is only a question of time when a new personality will be born. If these states grow largely at the expense of the personal consciousness this latter may finally assume a position of relative inferiority.

Sidis' theory of the hysteric state and the hysteric attacks is closely bound up with his therapeutic ideas and really can only be fully understood by taking them into consideration.

His principle of treatment is by reassociation of the dissociated states. The secondary state is gradually merged into the upper consciousness so that the cured patient no longer has two independent states separated by an amnesia but the events of both states are fully known to the personal consciousness. A significant fact is that the cured patient is no longer hypnotizable, which speaks strongly for Janet's position as to the identity of the hysterical and hypnotic states.

This cure is brought about through the intermediation of the hypnoidal state—a state Sidis[8] places between waking and sleep on the one hand and hypnosis on the other. It is, he believes, the primitive rest state of animals and in the higher animals has developed by differentiations into sleep. Under certain conditions, however, hypnosis may develop instead of sleep. The therapeutic value of the hypnoidal state is due to its being the portal to the psychic "reserve energy."

As we are all possessed of more liver, more kidney, more everything than is necessary for our ordinary needs and are supplied with a large surplus to be called on in times of emergency, so it is with psychic energy. Through the utilization of the psychic reserve energy the dissociated systems may be restored to equilibrium.[9]

The main features of Sidis' theory then are—the process of

[8] Sidis: An Experimental Study of Sleep. Jour. of Abnormal Psych., Vol. III, Nos. 1, 2 and 3, 1908.

[9] Sidis: Studies in Psychopathology. Boston Med. and Surg. Jour., Vol. CLVI, Nos. 11, 12, 13, 14 and 15, 1907.

dissociation, the principle of dynamogenesis and automatic activity of the dissociated systems, the cure by reassociation, and the principal of reserve energy and its accessibility through the hypnoidal state.

Breuer and Freud in their "Studies"[10] published in 1895, set forth also a modification of the explanation by dissociation. They, however, devoted more attention to the process and causes of the dissociation. For them dissociation occurred at the moment of psychic trauma. It might be the result of a single severe shock or a multitude of small ones.

The reason the dissociated states are able to continue actively and in their original clearness year after year without growing dimmer as time goes on as do other mental states, is that they are isolated from the upper consciousness and from the world of events in general and are therefore not thrown into the background and rendered obscure and buried by the rush of events day by day.

The characteristic of the psychic trauma which produces hysteria is its large content of painful affect. A painful affect fully reacted to at the time may produce no harm, but if for any reason reaction fails, and the feelings are contained and repressed, the possibilities of dissociation are created.

Failure of reaction may be due to the failure of conditions that make efficient reaction possible, as for example, an insult is "swallowed" or a dear friend or parent who cannot be replaced, or for whose loss there seems to be no compensation, is lost by death. This gives rise to "retention hysteria." Again ideas, usually of a sexual nature, which are incompatible with the personal consciousness are repressed—reaction is not permitted, no effectual "catharsis" takes place. This condition produces "defense-hysteria." Finally experiences occur in a hypnoid state. This is a condition midway between waking and hypnosis, a dreamy state of mind

[10] Breuer and Freud: Studien über Hysterie. Leipzig und Wien, Franz Deuticke, 1895.

such as is favored, for example, by the needle work that women do so universally. The essential point is, however, that it is a split-off, dissociated state. Events occurring in this state of mind never having reached the personal consciousness, have of necessity and by implication always been dissociated—they produce the so-called "hypnoid hysteria." Freud is inclined, however, to find the real basis of all three varieties in the principle of defense.

The final principle of the Breuer-Freud theory is the principle of conversion. The strangulated affect, the unreacted-to emotion, belonging to the dissociated state which has been repressed, finds its way into bodily innervation thus producing the motor phenomena of hysteria. In this way the strong idea is weakened by being robbed of its affect—the real object of conversion.

From 1895 on Breuer's activity in the realm of hysteria ceased. Freud, however, continued his investigations and elaborated still further the position he took in the "Studies."

The really most important and significant feature of Freud's[11] theory is the tracing of every case to a trauma of sexual nature. Not only does hysteria always originate in sexual traumatism but the original traumatic moment must have been in childhood—in the pre-pubescent period.

These infantile sexual traumas are of the nature of seduction by grown people or older children, they consist of actual irritation of the genitals (coitus-like processes), and occur before puberty (which occurs earlier in the psychic sphere than the maturing of the body). Freud has traced this class of traumas to very early life, three and four years of age, and in one instance actually to one and one half or two years.

The reason why sexual experiences of infancy and early childhood are so potent for trouble in later years is because of the peculiarity, in one particular, that sexual experiences have—differing in this respect from all other psychic experiences. Ordi-

[11] Freud: Selected Papers on Hysteria and Other Psychoneuroses. Nerv. and Ment. Dis., Monograph Series No. 4, New York, 1909.

narily a mental experience once had tends to fade out and become progressively more indistinct as time goes by. Sexual ideas produce actual genital excitement. Now—if these ideas which originated before sexual maturity are revived after sexual maturity, puberty having intervened in the meantime, has rendered the affective and genital capacity for reaction much greater so that the response instead of being less has actually accumulated powers for being greater. This disproportionate capacity for increased reaction taking place in the subconscious is responsible for the mischief. In the words of Freud "hysteria is the expression of a special behavior of the sexual function of the individual" and "this behavior was already decisively determined by the first effective influences and experiences of childhood."

These infantile sexual traumas form the necessary precondition for the outcrop of hysterical symptoms in later life. These symptoms may be produced by the most banal occurrences and even by bodily traumatisms.

There must, however, be a connecting link between the infantile sexual trauma and the later manifestations. This connection Freud finds in the so-called "hysterical fancies." These are the "day dreams" of erotic coloring, "wish gratifications" originating in privation and longing. These fancies hark back to the original traumatic moment and either originating in the subconscious or shortly becoming subconscious are transformed into hysterical symptoms. They constitute a "defense" of the ego against the revival as reminiscences of the repressed traumatic experiences of childhood.

We find, therefore, an infantile sexual trauma which has been repressed. In certain individuals this repression results in an independent activity of the repressed experiences (complexes). These repressed experiences condition the erotic fancies which take forms incompatible with the personality and are in turn repressed. The repressed ideas are rendered harmless, greatly weakened, by the transformation of their affective excitement into

bodily innervation—a process Freud calls "conversion" while the mental symptoms of the attack represent the incursions of the erotic day dreams to the surface. Thus in Freud's words: "Psychoanalysis of hysterical individuals show that the malady is the result of the conflict between the libido and the sexual repression, and that their symptoms have the value of a compromise between both psychic streams."

Physiological Theories

The only one of the physiological theories which is of sufficient prominence to be taken up at this time is that of Sollier.[12] His definition of hysteria is as follows: "Hysteria is a physical, functional disturbance of the brain, consisting in a torpor or a sleep, localized or generalized, temporary or permanent, of the cerebral centers, and manifesting itself consequently according to the centers affected by vaso-motor or trophic, visceral, sensory and motor, and finally psychic disturbances, and, according to its variations, its degree and duration, by transitory crises, permanent stigmata or paroxysmal accidents. Confirmed hysterics are only vigilambulists, whose state of sleep is more or less profound, more or less extensive."

This definition is nothing but a statement of dissociation in physiological terms. An explanation still further removed for while dissociation may be a theory it is an interpretation of certain psychic facts. Sollier's hypothesis is, on the contrary, purely conjectural without any facts additional to those of the dissociationist on which to rest. It is interesting and without the other theories might be helpful but it has no facts to support it.

Biological Theories

In the consideration of the psychological theories of hysteria it was shown how the hysterical manifestations were a result of dissociation. This dissociation occurs in the realm of the per-

[12] Sollier: Hystérie et Sommeil. Arch. de Neurol., Mai et Juin, 1907.

sonal consciousness and constitutes a breaking down, a disintegration of the personality. It would seem to follow from this view that dissociation and disintegration of the personality would occur in those individuals in whom the synthesis of the personality was defective, that is, in persons in whom the elements that go to make up the personality are not being held together, not closely knitted by association but fall apart upon slight provocation.

This is a conception of the hysterical type which is essentially biological. Snyder[13] holds hysteria to be a mode of reaction in persons of naïve, simple, infantile mentality. A mentality lacking in development and defective in judgment and critique. Such individuals placed in a new environment to which they cannot adapt, or adapt only with difficulty, develop the hysterical type of reaction.

Similarly—as hysteria is a manifestation of an infantile mentality so it is, when considered racially, the manifestation of the infancy of the race, of people who are primitive and simple. For example Kraepelin[14] found it very prevalent among the natives of Java. That and dementia præcox were the most prevalent of mental disorders—both disorders incident to poor development of the mental powers.

Snyder would explain the outbreaks of hysteria among the masses that occurred so frequently in the middle ages as the result of the repression of the human spirit. Wherever the aspirations, the reachings out, the efforts to go ahead have been repressed, as they were by the conservative forces of society during the middle ages, then hysteria comes to the front and as the repressive forces operated on all the people alike we find the reaction commensurately widely distributed. This is the period of the "infancy of individualism" according to Hellpach,[15] who thinks

[13] Snyder: Definition et nature de l'hystérie. L'Encéphale, Aout, 1907.

[14] Cited by Jelliffe: Hysteria and the Reëducation Method of Dubois. N. Y. Med. Jour., May 16, 1908.

[15] Cited by Snyder, loc. cit.

that the socialistic aspirations of the proletariat of to-day are the equivalent of the hysteria of the masses of the middle ages.

It is at least interesting to contemplate, in the light of Freud's ideas of repression and retention, that the individual through many avenues, public speaking, newspapers, etc., has many ways open of letting off steam, means for emotional catharsis that were denied him in times past.

Claparède[16] in his consideration of hysteria lays special stress upon the fact that the hysteric shows a marked resistance to the recall of painful memories which he considers to be biologically a defense reaction. Equally also is suggestibility a defense reaction against personal peculiarities and tendencies which never could be given free play or they would isolate the individual from the social world in which he lived. Instead of yielding to these impulses the suggestion of another is followed because safer.

The theory of Claparède[17] is a portion of a broader theory which would explain sleep, not as it is usually explained, as a negative function, but as a positive function. We do not sleep accordingly because we are exhausted but in order not to be. In other words, sleep is a function of defense. It makes itself felt before real fatigue. Prevent the animal from sleeping and it becomes exhausted.

This digression into the theory of sleep is interesting because of the close relation sleep bears in theory to hysteria. Sidis[18] in recent studies has come to the conclusion that the primitive state of rest in animals is a semi-waking state to which he gives the name hypnoidal. Out of this state there develops on the one hand sleep—on the other the hypnotic state, so that it is impos-

[16] Claparède: Quelque mots sur le definition de l'hystérie. Arch. de Psych., October, 1907.

[17] Claparède: Esquisse d'une théorie biologique du sommeil. Arch. de Psych., Tome 4, Nos. 15 and 16, February and March, 1905. Reviewed by Vaschide: La Théorie Biologique du Sommeil de M. Claparède Revue de Psych. April, 1907.

[18] Sidis: loc. cit.

sible to pass into or out of the sleeping or hypnotic state without passing through the hypnoidal.

The consideration of sleep from a biological standpoint is especially interesting. Claparède considers both sleep and hysteria as being defense reactions, while Sidis develops both sleep and hypnosis from a primitive hypnoidal state. These facts are particularly significant when we recall that Janet believes that to be hysterical is identical with being hypnotizable. Then Bernheim, for instance, believes the state of hypnosis to be clearly allied to sleep and now lately we find McDougall[19] pointing the similarities between sleep and hypnosis, and explaining hypnosis as a state of dissociation, and treating of the dynamics of the dissociated states in a way quite like what we are already familiar with.

Clinical Theories

What I have called here clinical theories might almost better be called clinical definitions. The very attempt to define, however, although perhaps not primarily directed to a discovery of the nature of the thing defined must by implication consider it.

The principal author to be considered here, because of the great attention his pronunciamento relative to hysteria has received, is Babinski, and we will see that whereas his effort is primarily addressed to the definition of hysteria, still it necessarily implies somewhat of its nature.

The fundamental proposition of Babinski[20] is that the hysterical phenomena are distinguished by the fact that it is possible in certain subjects to "reproduce them by suggestion" "with vigorous exactitude" and "cause them to disappear under the exclusive influence of persuation." To the condition in this group of cases in which the symptoms are capable of being produced by suggestion and removed by persuasion Babinski has given the name pithiatism.

[19] McDougall: The State of the Brain During Hypnosis. Brain, Vol. XXXI, 1908.

[20] Babinski: My Conception of Hysteria and Hypnotism. Alienist and Neurologist, Vol. XXIX, February, 1908.

His distinction between suggestion and persuasion is to my mind wholly academic. It is suggestion to influence a patient to accept an idea which offends the reason, which is manifestly irrational, while it is persuasion if the idea is reasonable, rational.

Babinski believes that a large number of the symptoms manifested by the hysteric are caused by the examinations of the physician. The methods employed, for example, to determine the presence or absence of anesthesias, suggest these very anesthesias to the patient who forthwith presents them. This I think will be admitted as true in not a few instances.

Similarly he would exclude from the realm of hysteria disturbances of the tendon reflexes, cutaneous ecchymoses, paralysis of the third nerve, anesthesias of the cornea and conjunctiva, inequality of pupils, mydriasis, visceral hemorrhages—hemoptysis and hematemesis—anuria, fever, etc.

It will thus be seen that Babinski relegates the phenomena of hysteria to the psyche and to the higher psychic functions at that.

It is interesting to note further that for him hysteria and hypnosis are the same except that hypnosis requires the intervention of a second person to develop its manifestations while hysteria does not.

From a consideration of all these theories it seems to me that the most fruitful conception of hysteria is that expressed by Janet in the phrase "weakening of the faculty of psychological synthesis," which condition is brought about by the repression of painful experiences—complexes—and their subsequent quasi-independent activity with the resulting phenomena as described in Chapter IV. The personality, which is the highest expression of the psyche, the acme of complexity of association in a harmonious psychological synthesis, tends rather easily to fall apart. The associations are not sufficiently strong, sufficiently binding and it splits up under the influence of certain kinds of stresses. This aptitude for disintegration has both an ontogenetic and a

phylogenetic substratum. It is the infantile mentality that is thus affected and when hysteria has manifested itself in the masses, the people have been afflicted while the race was in its childhood.

As to the manifestations of the hysterical type of reaction their number is legion, their forms protean. All attempts up to the present time to gather them together within a given definition have, to my mind, been quite futile.

From a conception of hysteria that admits a symptomatology covering the entire realm of nervous and even visceral disorders, implicating both the psyche and the unquestionably physical bodily processes the effort of Babinski is a reaction while Bernheim[21] goes even further and says "hysteria is not a morbid entity, it is not a disease," "the disease hysteria, such as is described, does not exist." Bernheim[22] would reserve the name hysteria solely for the crises, a position some others also take. In harmony with this tendency we see coming into general use the word "hysteriform" to express conditions which resemble hysteria but because of associations with other conditions are supposed not to be.

The whole question of the relation of hysteria to other diseases, to mental diseases such as dementia præcox, to neuroses such as epilepsy, to multiple sclerosis, chorea, etc., has been admirably and sanely reviewed by Voss[23] in his recent work.

If, as seems to be generally acknowledged, the hysterical Anlage, the tendency to hysteria, or hysterisability as Bernheim would have it, may remain indefinitely latent until something happens to produce the characteristic response, then I do not see why the so-called hysteriform accompaniments of these various diseases cannot properly be considered as true hysteria. Why should not a multiple sclerosis be the activating agent in breaking down the resistance to the outcrop of the hysterical reaction?

All these efforts to limit, to bind in, to define hysteria within

[21] Bernheim: Conception du mot Hystérie. Paris, 1904.

[22] Bernheim: loc. cit.

[23] Voss: Klinische Beiträge zur Lehre von der Hysterie. Jena, Gustav Fischer, 1909.

certain prescribed boundaries are not at all convincing and they fail, it seems to me, simply because hysteria does not confine its manifestations to any definite limits. It spreads out into all the available and adjoining territory and is indefinite and hazy in its outlines quite like other natural phenomena. We must not forget that definitions are human devices—nature has few sharply defined boundaries.

The effort of Babinski to exclude all phenomena which seem to be physical in character seems to rest on entirely inadequate conceptions. The whole field of psychopathology has too long been dominated by that bug-a-boo, the relation of the mental and the physical and the implied necessity of conceiving of each as in essence different from the other. This is but another example of an attempt to define an artificial boundary where none exists.

As between the most definitely physical of bodily processes on the one hand and the highest psychic on the other, an infinity of gradations exists and at no point can it be said that what was one has become the other. It is much more stimulating and effective to stick to facts wherever they may lead us than to create arbitrary boundaries which later on only serve to cut off our entrance to certain territories.

It seems to be very well demonstrated that the individual reacts to conditions by the development and organization of mechanisms which in their complex manifestations may include both physical and mental components (as set forth in Chapter I).

It seems to me that in a consideration of such facts we may find an explanation for the association of physiological disturbances with hysteria, such as the false gastropathies for instance, and also an explanation of those cases which start as hysteria apparently but which later on show symptoms of permanent mental deterioration. Those cases, which lead to a change of diagnosis from hysteria to dementia præcox, also lead to the belief that the original diagnosis was in error. Why? Could it not be possible for a hysterical type of reaction in a badly organized

individual to gradually unloose bits of physiological mechanism until organic changes had wrought permanent damage?

And so I think we must come to recognize the hysterical type of reaction wherever we see it whether in connection with other conditions or alone. By so doing we will have a broader understanding of our cases than by always insisting upon a one-disease diagnosis.

CHAPTER VI

THE PSYCHOLOGICAL APPROACH TO THE PROBLEM OF ART

To anyone who has felt the intense pleasure that comes from the contemplation of a work of art, and who at the same time is of an enquiring and analytical turn of mind, there must have at times arisen the query as to wherein lies the explanation of this pleasurable feeling-tone. If an inquiry has been pursued in this direction, if the critics have been read for light on this problem, there must have come as a result a more or less well defined feeling of dissatisfaction with the conclusions. Why are some works of art great? Why have they survived the centuries in the hearts of men? These are the questions for which we have in vain sought a satisfactory response. The explanations of the critics are not only unsatisfactory but contradictory.

To dilate upon the wonderful poise of the Venus de Milo, the perspective of a Turner, the chiaroscuro of a Corot, the coloring of a Tintoretto, a Ruebens or a Raphael, the high lights of a Rembrandt, or the grouping in a Franz Hals, touches only the surface, and after all resolves itself largely into a matter of technique. Whether the paint is applied with a brush or with the finger, whether with the minute care of a Memling or laid on in large thick pieces of color after the pointilliste method, is of little or no consequence.

While the arrangement of the draperies on the figures of Etruscan vases or the strange lack of perspective in Giotto's frescoes have great chronological importance, great works of art seem in some way to rise superior to such details of composition and technique. Although reflecting the taste and the customs, the religions, conventions and superstitions of the age and peoples in which they originated, the great masterpieces have risen supe-

rior to locale and to time. Time, change of customs, new standards of critique, nothing in fact, has dimmed the glory of the Venus de Milo, Michael Angelo's il Pensieroso or his marvelous decorations of the Sistine Chapel, the Raphael Stanze, Giotto's Campanile, Homer's Iliad, or Shakespeare's Hamlet. What is it that lives in all these great works?

Whether we turn to the art critic or the artist himself for a solution of this riddle we meet with results that are far from satisfactory. In fact we find that they really have no explanation, for the explanations they offer have little in them that is at all satisfying.

It is this apparent paradox, a great work of art produced by one who does not understand the nature of the motives actuating him, and viewed by an enthusiastic but uncomprehending public, generation after generation, that seems to me most significant.

To my mind this lack of comprehension is the rule, not the exception, and its explanation lies in the fact that the work of art takes its origin from motives which are not clearly in the consciousness of the artist; and the effect of the work of art in like manner is exercised not upon the superficial, clearly comprehended elements of the mind, but that they reach deeper, beyond the façade of our intellectual and emotional life; they have entered the portals of our personality, and if they have continued to exercise this effect throughout the centuries it is because they have penetrated to a something fundamental, a something common to all mankind which is therefore and necessarily independent of time, place or the particular social, religious or political conditions of the age in which the artist lived.

That the true raison d'être of a work of art and the secret of its effect upon us is not to be readily explained, that the reasons are not on the surface, where "he who runs may read," is at once evident if we turn to the writers on art for light on the subject. Here we find that the Good, the True, the Beautiful, the Ideal and the Sublime, play a very large part in explanation; but unfor-

tunately what constitutes goodness, truth, beauty, perfection and sublimity seems to be at least open to great difference of opinion. Some see art only in works that set forth great religious or moral truths, while others would have it that art is justified by simply pleasing, and that it can necessarily have no useful purpose. And so the story goes. Some authors write entertainingly and well; others, because they are trying to set forth through the medium of the intellect something they feel but cannot intellectually formulate, write mere twaddle.

The situation has had its counterpart frequently in medicine. When we see all sorts of remedies extolled by different but equally able practitioners as effective in a certain condition, we have a right to suspect them all, and to conclude that the explanation of their apparent results lies elsewhere. We must not fail to remember, though, that there is probably some grain of truth in all of the experiences—probably the natural tendency of the disease to get well, irrespective of the remedy applied.

Now this state of affairs is precisely what we would expect if it is true that the origin and the effects of art are confined to that region below clear consciousness, to which have been variously applied the terms, subconscious, co-conscious and even unconscious. This region we know is not susceptible of being reached by introspection. It is therefore self-evident that what occurs in it must be unknown to the possessor. It is therefore not strange that the results of a subconscious activity, the springs of which are unknown to the possessor, should receive many and varied explanations.

That the artist is, as a matter of fact, unconscious of the underlying motives that prompt him to produce, I may illustrate by a couple of examples. Bernard Shaw,[1] one of the most incisive of our present-day critics, speaking of the necessity which forced him "to make up his mind definitely as to what Ibsen's plays meant," says: "I allow due weight to the fact that Ibsen himself

[1] The Quintessence of Ibsenism.

has not enjoyed this advantage; but I have also shown that the existence of a discoverable and perfectly definite thesis in a poet's work by no means depends on the completeness of his own intellectual consciousness of it." The same writer[2] quotes from Wagner in a letter he wrote to Roeckel as saying: "How can an artist expect that what he has felt intuitively should be perfectly realized by others, seeing that he himself feels in the presence of his work, if it is true art, that he is confronted by a riddle, about which he, too, might have illusions, just as another might?"

It is this subconscious origin of the forces which result in the creation of a work of art which has led to the common explanation of inspiration. This feeling impelling the artist to create, coming from he knows not where, he was unable absolutely to clearly explain. Inspiration was a sufficiently hazy conception to fit the state of mind, and so was accepted, and effectually clouded the issue and prevented any effort to find out what lay beneath.

If these instances are proof of the subconscious origin of the artistic sentiments, so also, I believe, is the possibility of translating the same feelings from one mode of artistic expression into another. Wagner, for example, has been accused of being a painter at heart. His conceptions, it has been claimed, were more calculated to create great canvases than great operas, while his stage settings are criticised as being examples of pictorial art to which the music and verse were secondary.

This confusion of the different art fields and translation of the feeling-tone from one to the other is quite common. The great effort of operatic music is that it should help to express the idea conveyed by the words and actions, and though music is not nearly so definite a means of expression as written or spoken language, the leit motif in the hands of Wagner reached a definiteness practically verbal in quality. A recent specific effort is that of the Russian pianist and composer Rachmaninoff to translate into music the "Isle of Death," that masterpiece of the German mystic painter Boecklin.

[2] The Perfect Wagnerite.

The poem of Hildegarde Hawthorne[3] to St. Gaudens' masterpiece, the Adams memorial, is to my mind not an interpretation of that wonderful work, but a translation from stone to verse. It has the same mystery, the same elusiveness, and I have often wondered whether, if an artist were given the poem without having seen the statue, and asked to sketch the effect it produced on him, he would not produce something like the statue—a figure draped, silent, calm, accepting, yet full of mystery.

The character of the emotional tone that comes from the submerged regions of consciousness is of importance. Freud has emphasized the dominance of the sexual emotions in their influence upon thought and actions. Their importance is great; perhaps it can hardly be exaggerated, especially when we consider that in the last analysis all life centers down to and resolves itself into the problems of self-preservation and the preservation, by propagation, of the species. Perhaps, too, these are only different aspects of the same thing; for what, after all, is a desire for children than a desire, from another point of view, to preserve our life beyond our personal existence, to extend our influence into future generations?

[3] Yea—I have lived, pass on
And trouble me with questions nevermore.
I suffered, I have now a solemn peace,
My peace forevermore.
Leave me in silence here
I have no hope, no care,
I know no fear,
For I have borne, but nevermore can bear.
Deep-hid sorrow calls me kin,
But my calm she cannot break;
I know not good, I know not sin
Nor love not hate can me awake.
Though I have sought—I care not now to find,
If I have asked—I wait for no reply.
Mine eyes with too much seeing have grown blind,
I am not dead—yet do not need to die.
Pass on—you cannot reach me anymore,
Pass on, for all is past.
Hush—silence settles ever more and more
Silence and night at last.

It is unfortunate that we have no word in our language that better expresses what I have called sexual. This word has disagreeable reverberations that I wish might be done away with. The term is here used in the broadest of senses to comprise all the broad and complex group of experiences centered about the differences of sex. It includes not only those more immediate experiences associated with the sexual approach, but the secondary, tertiary and even more remote sexual characteristics which distinguish the sexes; such as the differences in habits of thought, decorative features of dress, social life, and is represented in art all the way from a Velasquez Venus to a della Robbia bambino. Perhaps for our purposes we might substitute for the word the term love motive.

To consider this love motive as the spring from whence come the æsthetic experiences of art has a certain considerable sanction. In the first place, no variety of experience begins to furnish such a rich content of feeling as this. About it centers not only the sweetest experiences of our lives but the bitterest conflicts, the deepest hatreds, the profoundest repulsions. It is a never failing source from which to draw on feeling, and if we will consider we will perhaps be surprised to note the extent to which its use has been obviously put. The galleries are filled with paintings that openly profess it; poetry would indeed be poor without it; music is essentially sensuous, while dancing is obviously so.

Then again, another and most important reason for giving the love motive due consideration is its universal character. Traditional, historical, social, economic, political conditions may all change; men, nations, aye civilizations may come and go, but the love of a youth for a maid endures. This is surely a most important consideration. If great works of art have endured through the centuries and have been enjoyed by people under all varieties of existence, it can only be because they have appealed to a something in man more fundamental, more lasting than the changing conditions under which he has lived. May not the love motive be that something?

If we look to the writers on art who have endeavored to define the nature of artistic experience, we will find here and there a vague appreciation of this possibility.

"According to Burke[4] (1729–1797, Philosophical Inquiry into the Origin of our Ideas of the Sublime and Beautiful), the sublime and beautiful, which are the aim of art, have their origin in the promptings of self-preservation and of society. These feelings, examined in their source, are means for the maintenance of the race through the individual. The first (self-preservation) is attained by nourishment, defense and war; the second (society) by intercourse and propagation. Therefore, self-defense, and war, which is bound up with it, is the source of the sublime; sociability, and the sex-instinct, which is bound up with it, is the source of beauty." I shall return to this definition later. According to Schiller, Darwin and Spencer,[5] "Art is an activity arising even in the animal kingdom, and springing from sexual desire and the propensity to play."

The reasons, then, that the love motive is considered necessary for great works of art are the necessity for a universal motive, common to mankind in every phase of their existence—the strongly emotional character of the motive, the obviously frequent use of it, more frequent in fact than any other—the vague realization of its necessity by many who have examined into the art problem.

If this motive is accepted it will explain many phenomena. Symbolism in art, in religion, in folk-lore is, we know, largely of sexual origin. Such are, for example, the allegory of the origin of sin, the biblical song of Solomon and the whole subject of phallic worship. The origin of such symbols can be explained by an appeal to this motive on the principle of the Freudian psychology. We lead two more or less distinct and conflicting psychic lives. One rich in emotion but submerged beneath the

[4] R. Kralik: "Weltschönheit, Versuch einer allgemeinen Æsthetik," cited by Tolstoi: What is Art?

[5] Tolstoi: op. cit.

region of clear consciousness, is the home of our crude, untamed desires of which the sexual is the most prominent. The other is the fully conscious life, the psychic veneer of civilization. Desire speaks for recognition, convention refuses; a conflict results. Desire is primitive and strong, and will not down. Convention—the result of education, suppresses the primitive because, according to its standards, it is hateful. Finally a compromise is reached by which desire may be recognized, received in the precinct of the conventional, provided only it comes properly disguished—symbolized. Legendary, folk-lore and particularly religion, where the suppressive elements have their greatest sway, are rich in examples.[6] It is sufficient to merely mention the symbolism of the serpent, particularly in religious art, as representing sin.

Grant Allen[7] approached this explanation without realizing it when he derived the feelings which give origin to poetry and romance, and in large part to painting and sculpture from "day dreaming or building castles in the air." This process he believed to be "purely ideal" and "not connected with necessary vital functions." The air-castle-building-day-dreaming idea is all right, but is far from a useless procedure as Allen thought. Such reverie has a distinctly compensatory function, it is wish-fulfiling in its character, highly symbolic as a rule, and of sexual origin, frequently at least.

Writers on art recognize this same thing. Rea writes:[8] "We must all be conscious of a certain dreamland of our own, in which things and ideas are pictured in our minds, not necessarily as they really are, but as we should like them to be, and as they might be were our mutual relations different."

Aside from this aspect of the question the love motive explains why great works of art center about distinctly human interests and represent the human form. No mere landscape ever rose to

[6] A. Maeder: Die Symbolik in den Legenden, Märchen. Gebraüchen und Traümen. Psych.-Neurol. Wochen., May 2 and 9, 1908.

[7] Physiological Æsthetics.

[8] Hope Rea: The Tuscan and Venetian Artists.

universal acceptance as have works involving the human form. Of course it must be remembered that landscape painting is a comparatively recent development. As wonderful as Paul Potter's Bull is, many people care little for it; while I have never heard anything but praise for Le Febvre's La Dame d'Éventail, especially the Broun copies. The Greeks, of course we know, from whom so many of our ideals come, worshipped the human form, naked, undraped, and indeed it would be hard to find a more universally accepted work of art than the Venus de Milo. Although the Greeks made the human form the basis of their art, it was not the Greek human form they portrayed. Albrecht Dürer painted idealized persons, but they were distinctly German. Franz Hals and even Rembrandt painted not only characteristic types of their day, but quite frequently they painted the actual individuals, so that their appeal was necessarily limited. The Greeks painted a perfect human form, and added an idealized face that might be German, Flemish, Dutch, Italian or what not, and so appealed alike to all. They dealt truly in the universal motive.

This brings us naturally to a consideration of motives that are less fundamental than the love motive; motives that are less universal—the secondary motives. Before touching this subject, however, the question may be asked—Is the love motive the only fundamental, universal art motive?

We have seen that we may reduce all human activities to two general categories. Those calculated to preserve and perpetuate the race, and those addressed to self-preservation. The love motive is an expression of the instinct to perpetuate the race. Has the instinct of self-preservation, too, a fundamental emotional element that may form the basis of an art motive? I think perhaps it has, and I would call it the mystery motive.

The instinct of self-preservation is stirred into great emotional activity by conditions in the environment which are recognized as of overwhelming power,[9] and the emotion aroused varies all

[9] See Mercier: The Nervous System and the Mind. Mercier's classifications and definitions of feelings are illuminating in this connection.

the way from terror when the conditions are recognized as overwhelming and inimical and counteraction is not elicited—the individual is transfixed—through fear, when the power is not overwhelming but is superior, to states of vexation, resentment and contempt when the conditions are recognized as of insignificant power.

A material factor in fear states is mystery—a failure to understand the nature of the impending conditions. Mystery is the half-brother of fear, and attaches itself to those experiences that are unusual, outside of the realm of every-day experiences. The horse is frightened by a simple piece of paper that suddenly, as the result of a passing breeze, takes on the attribute of motion.

Then come the feelings of reverence and devotion to overwhelming power which is recognized as beneficent and finally states of feeling of awe and sublimity to great power in the environment which is not directed towards the individual at all but is merely contemplated in action or at rest.

It is not probable that such violent emotions as terror and fear can become sources of art, but the allied mental state of mystery frequently is a large factor. In fact I believe it is present in the contemplation of tremendous edifices, such as the choir of Beauvais, which is so immense, so much larger than anything with which we have any experience in our every-day lives, and have therefore become adapted to, that it is simply impossible to take in, to grasp, and we are apt to stand before its immensities agape at the wonder of it all. Mystery, too, enters into many art productions that are not overwhelming by virtue of their size. It is a prevailing note, for instance, in St. Gaudens' Adams memorial. When it comes to overshadow all other motives we find it emerging as a distinct movement in art. Here, however, we are probably dealing with an entirely different feeling-tone than that which results from contemplating Beauvais or St. Gaudens. This is rather the result of a motive often perilously near the abnormal that takes obscureness as a criterion of beauty and excellence.

Of coequal importance to these fundamental motives in art is beauty. Beauty is an essential of all art and lies at the basis of æsthetics. The painting of an ulcer, no matter how well done, could never be art. There are certain elements of it to which I think it worth while to call attention. This particular thing is brought out in classic architecture. If we will study the Greek column, for instance, we find that it does not taper regularly from below upward, but that there is a gradual swelling about two thirds up. If this swelling were not there the column would look weak at that point. A careful examination of the stylobate of the Parthenon, the floor on which the great columns rest, will show that it has a slightly upward curvature, else it would appear sagged by the great weight. So the architrave has a similar curve for similar reasons.

The physiological and psychological reasons which make it necessary to make these corrections are, that if they are not made a mental state of discomfort is produced as a result of the musculature being thrown out of harmonious balance. We unconsciously make muscular efforts to correct such defects as these when we see them, and are so made uncomfortable. This may be better appreciated by an example within the experience of all. How frequently we find ourselves moving this way and that, perhaps distorting our faces in an almost grotesque way as we sympathetically watch some person making a great effort of some sort, perhaps an acrobat on the stage. Such movements can be seen in their crudity in the schoolboy, twisting and squirming, with outstretched tongue as he bends in wrapt attention over his copy book.

I believe the great charm of the simple Doric buildings lies in their perfect balance, so that they give the impression of absolute harmony in all their parts. All of the parts have been so arranged that they not only, as a matter of fact, are in perfect balance, but the lines have been curved a little here and a little there, a column has been placed at a slightly different distance from its neighbor

than the one on the opposite side, so that aside from the real harmony there is an apparent harmony; the structure looks balanced, all of the distortions that optical illusions would have created have been corrected. In contemplating such a structure the muscular system remains in balance; there are no disagreeable sensations from muscular tensions unequally distributed in the two symmetrical halves of the body, a condition of muscular calm is brought about that produces a feeling of quiescence, of rest, of harmonious adjustment that is pleasurable.

It is interesting, in this connection, to refer to Mercier.[10] He refers to the view expressed by Grant Allen[11] who regards the feeling of beauty as corresponding with the maximum of stimulation with the minimum of fatigue or of waste. After some hesitation, however, he discards this view and retains his own, which regards it as the maximum of action of the environment on the organism with the minimum of reaction of the organism on the environment. The correspondence between this view and the one just expressed is so great that I think it is worth while at this point to quote Mercier in full. He says with reference to his view as compared to that of Grant Allen: "Although the correctness of this expression is not nearly so evident as that of Mr. Allen's, it is not only more in harmony with the system of classification here expanded, but it brings into prominence elements which I believe to be equally in accordance with truth and of more fundamental character. Stimulation, it is manifest, can only occur by an action of the environment on the organism. It is not at first sight equally manifest that fatigue necessarily implies action of the organism on the environment; but it will be admitted that it usually does so, and I think it can be shown that it always does. Fatigue as commonly used means the feeling that accompanies exhaustion of muscular power after exertion,—that is to say, it implies much previous action on the environment. But we speak also of fatigue of the eyes after working long at the micro-

[10] Loc. cit.
[11] Loc. cit.

scope, or after many hours in a picture gallery. In the former case there is true fatigue—exhaustion of the ocular muscles, and this may also be present to a certain extent in the latter—but the feeling here is not mainly, I think, one of true fatigue; it is mainly a feeling of satiety. There is, however, another application of the term fatigue which must be admitted to be correct, and which appears at first sight to have no reference to muscular action—to reaction on the environment. This is the feeling that follows continued intellectual exertion. When this feeling is present there may have been no preceding muscular exertion. The body may have been in complete repose with reference to its surroundings. Yet there has been great internal activity, and there is a considerable volume of feeling to which the term fatigue is universally applied. Can this feeling be said to correspond with action of the organism on the environment? If by correspondence is meant direct correspondence, of course it cannot; but if the correspondence is to be thus restricted, neither can fatigue of the muscles of the eye and ear be said to correspond with such action. Intellectual exertion is on the physical side the opening up of new elements—the rendering permeable of new tracts—for the currents or the waves of molecular movement in the cerebral cortex. Every conclusion reached, every judgment formed, every similarity perceived, every difference distinguished, implies a modification of the structure of the brain—implies a redistribution of the resistance to molecular change—implies a modification in the direction that future changes must follow. But the cerebral cortex, regarded physiologically, represents combinations of muscular movements; and a modification of the structure of the cerebral cortex is, on the physiological side, a modification in the grouping of muscular movements—is a modification of the way in which the organism acts upon the environment. Now if we bring together the first and last links in this chain of reasoning we find that intellectual exertion necessarily implies a modification of the action of the organism on the environment, and that the

fatigue which follows great intellectual exertion is the feeling which corresponds indirectly with a modification of the action of the organism on the environment."

We get a very interesting confirmation of this general position from a study of sound stimuli. A recent study of melody by Bingham[12] is particularly illuminating, especially when taken in connection with the more modern view of attention as essentially an affective state, and with a recognition of the muscular-tension components of this state. In the course of this study several of the observers remarked upon certain motor adjustments, strains and tensions, which were relieved when the melody seemed to them to possess "finality." This suggested the study of the effects of melodic stimuli upon muscular movement. The author concludes among other things, that a melody begins by upsetting some set of muscular tensions; it "includes the taking of a proper 'attitude,' the organization of a set of incipient responses," and ends finally "with the arrival of a phase of the complex ongoing activities in which the balanced tensions can merge into each other, etc." "Two or more tones are felt to be 'related' when there is community of organized response." "Unrelated pitches fall apart because each demands its own separate attentive act of adjustment."

Thus we see that there are at least two fundamental elements to be considered in the explanation of the effect works of art have upon us. One is distinctly psychic and the other both psychological and physiological. This latter element I have already illustrated in the balance of the Greek architecture, the muscular imbalance brought about by seeing one make an effort, the relief of certain muscular-tension states by the resolving of a melody.

One more important matter should be considered in connection with this psycho-physiological factor, especially with reference to

[12] Studies in Melody by W. Van Dyke Bingham. Psychological Review Monograph, No. 50. Review by T. L. Bolton, Jour. of Phil., Psych. & Sci. Methods, January 19, 1911.

painting; that is the fact that the eye is never at rest[13] but is in constant and rapid motion. A landscape, therefore, is never actually seen by the eye, disregarding for the moment the receiving mind, for two consecutive instants the same. In endeavoring, therefore, to reproduce a landscape upon canvas the very best that can be done is to paint something that will be an acceptable compromise with all these shifting perceptions.

When we take into account the varying quality of the perceiving minds it is easy to understand how many different schools have arisen with their several theories as to how nature should be portrayed on canvas. The important thing in all these illustrations is that, in order that a work of art shall be beautiful, it must strike a certain number of psycho-physiological balances. If these balances are thrown out beyond a certain point, if for example, a badly constructed melody results in muscular strains and tensions that are disagreeable, the feeling of the artist, no matter how properly a subject for art, cannot be conveyed effectively. The medium is inefficient. Beauty is lacking.

Now let us consider the more distinctly psychic element and see if the two cannot be effectively correlated.

Art is the language of the emotions. We have already seen that there is reason for believing that if a work of art is at all great it must appeal to a fundamental emotion, and I have suggested what I designated as the love motive as perhaps the most fundamental.

That this thesis is correct in its general statement, at least, can be more readily appreciated by a series of illustrations of the limitations of appeal and their reasons. This will involve a consideration of certain secondary motives.

Many motives are relatively universal only. That is, they are universal only for a certain group of people or during a certain

[13] On this subject of eye movement see the work of Judd, McAllister, Steele, Cameron, Courten, which is accumulated in several articles and published as No. 1, Vol. VII, of the Monograph Supplements to the Psychological Review, March, 1905.

period of time. One of the dominant motives of medieval art, for example, was Catholicism, and its greatest appeal was made, and is still made for that matter, to the Catholic world. The appeal is not a universal one, a Roman Catholic motive would hardly appeal to a Buddhist and vice versa.

Quite comparable to the relative universality of Catholicism is the beauty motive, that is, the use of beauty as an end and not a means. We must remember that while beauty is essential to all works of art the standards of beauty vary greatly among different peoples. In that resplendent period of French art which grew up largely during the reign of Louis XIV and just antedating the Revolution, we find a notable tendency to subordinate all motives to the production, above all else, of a work of beauty. Pictures embody no great idea, they are largely decorative in purpose and often, naturally as a result of royal patronage, even directly personal. Watteau is the type of the appeal to the beauty motive. His picture—The Embarkation for Cythera—is the type in which each individual feature is subordinate to the one fundamental purpose of beauty. More restricted still than either the religious or beauty motives is the war motive. The restrictions of this motive, so far as we are concerned at least, are temporal largely, depending much on historical interest though the abstract, general idea of conquest and the exultation that comes with victory which are so often associated with the war motive, are well nigh universal motives and are the obverse of the mystery motive. Meissonnier's pictures, representing specific historic incidents, and in their minutest detail true to the actual conditions of the time, are excellent examples.

And so we might pick out this and that motive and discuss it in its various bearings down to motives that are really minute—so minute in fact as to make it very doubtful if they deserve at all serious consideration. The boiled lobster-cabbage-asparagus type of picture of Snyder's seems to me to hardly deserve consideration as a work of art at all, while if the pots and kettles of the

Dutch genre painters are more worthy it is because of the implied human motive that they stand for. As symbols of a simple, austere, God-fearing people they have their raison d'être.

We have seen thus far how the value of a work of art is dependent upon the nature of its appeal, the dominant motive it stands for. It is evident from this analysis that no mere landscape or still life can ever be great except symbolically, while they mostly resolve themselves into being pretty or as exhibitions of a specially developed technique. It is evident, too, that the majority of works of art appeal to many motives and that they vary to a considerable extent according to the nature of the person appealed to. Millais's Sower was supposed by many, when it was first exhibited, to be symbolic of anarchy. The attitude of the peasant appeared to indicate that he was hurling maledictions against the conditions that bound him to toil.

It must be plain also that the great work of art not only makes appeal by use of a fundamental motive, but that the use of that motive is simple and direct and not surrounded by and made obscure by secondary and minor motives. Piloty's Thusnelda at the Triumph of Germanicus is, to my mind, a really splendid work, but one must know something of the story to fully appreciate it. This same principle of limitation of appeal is well illustrated by Poussin's picture "I too have been in Arcadia." Four figures are grouped about a tomb. One of them is stooping and rubbing away the collection of lichens and moss to more clearly reveal an inscription. The inscription reads "Et Ego in Arcadia." Unless the percipient knows Latin much of the appeal, the real meaning of the picture, is lost. No one, however, thinks to ask for the story of the Winged Victory of Samothrace. Perhaps there is a story, but if there is it wouldn't add one bit to the appreciation of the marvelous grace and beauty of this, to my mind, the greatest of all works of sculpture. In the same way one needs no explanation of Giotto's Campanile. That it is the bell tower for the Duomo beside which it stands is not necessary

to know to feel all of the charm of its unexcelled grace, harmony and beauty. I believe Ruskin has said that it was the finest product of architecture in the world.

There are heights to which art rises, however, which are greater than any thus far discussed. There is what has been called the sublime in art and which, of course, has only been most rarely attained. However, here too I believe we are using a relative term. For a certain time, for a certain people, more particularly for the Union soldier, Lincoln's Gettysburg oration[14] rises to sublime heights. That the appeal is not so simple and straightforward as in the examples we have just given, but requires some knowledge of something not in the oration itself I can perhaps illustrate by an example. The epitaph written by Simonides to the three hundred at Thermopylæ,[15] although expressing almost identical sentiments in a wonderfully simple and direct way, still I hardly think will stir at all deeply those who do not know the story; while even those who do will hardly respond with one tenth part of the emotion of an old Union veteran to Lincoln's oration.

[14] Fourscore and seven years ago our fathers brought forth upon this continent a new nation, conceived in liberty, and dedicated to the proposition that all men are created equal. Now we are engaged in a great civil war, testing whether that nation, or any nation so conceived and so dedicated, can long endure. We are met on a great battlefield of that war. We have come to dedicate a portion of that field as a final resting place for those who here gave their lives that that nation might live. It is altogether fitting and proper that we should do this. But in a larger sense we cannot dedicate, we cannot consecrate, we cannot hallow this ground. The brave men, living and dead, who struggled here, have consecrated it far above our power to add or detract. The world will little note, nor long remember, what we say here, but it can never forget what they did here. It is for us, the living, rather to be dedicated here to the unfinished work which they who have fought here have thus far so nobly advanced. It is rather for us to be here dedicated to the great task remaining before us, that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion; that we here highly resolve that these dead shall not have died in vain; that this nation, under God, shall have a new birth of freedom, and that government of the people, by the people, and for the people, shall not perish from the earth.

[15] "Thou who passeth by say at Lacedæmon we lie here in obedience to her laws."

The effect that a work of art produces upon a person varies directly according to the mental makeup of that individual—varies in accordance with the character of his mental constellations. If his mind has never been constellated with reference to Latin, a picture requiring a knowledge of Latin for its understanding fails in appeal.

That the nature of the individual's constellations can be worked out with reference to an æsthetic factor has been well shown by Bullough[16] in an analysis of color and perception. He was able to differentiate four perceptive types, viz., objective, physiological, character and associative, and a considerable number of "combination criteria"; *i. e.,* the effect produced in different persons by combinations of colors, the way in which one color influences another when associated with it.

It is plain to be seen then that a work of art, to make an at all broad appeal, must strike deep in its emotional appeal and reach those elements that approach, at least, to being the common possession of all mankind.

It is plain also that as we get away from this fundamental appeal we are dealing with relatively minor motives that are always of more restricted effect, and that therefore the risk becomes progressively greater of striking a combination in any individual that is not simply less pleasant but perhaps actually unpleasant. As we saw that beauty required the striking of certain psycho-physiological balances, so here, with reference to the more purely psychic factor in art appreciation, we may conclude that the appeal depends upon the striking of certain emotional balances.

Beauty may be both means and end and its use to both ends is fully justified. Beauty alone though has a relatively restricted appeal as we may appreciate by comparing the ideals of the Occident and Orient, and as we may appreciate even better by consid-

[16] Edward Bullough: The 'Perceptive Problem' in the Æsthetic Appreciation of Simple Colour-Combinations. British Jour. of Pysch., December, 1910.

ering a beautiful bit of lace. The lace is beautiful, it is true, but its appeal is a very superficial one, it fails absolutely to touch the depths.

The great works of art use beauty as a means; and a fundamental motive, a profound emotional appeal is made through this means. I believe, too, that this appeal must be made in a relatively simple manner because of the reasons already cited—that in proportion to the complexity of the work the danger is increased of touching discordant tones in the observer. It is in this respect that Wagner erred. He failed to appreciate both this fact and the further fact that the different forms of art—painting, sculpture, architecture—have developed from a more or less homogeneous beginning in which they were scarcely at all differentiated.

The greatest art, according to Wagner, in accordance with the views thus far expressed, should be possible in grand opera. Here the motives may be universal and dominant, and secondary motives may be subordinated to the fundamental appeal, and that appeal is made through music, poetry, dancing, and all of the motives of architectural and pictorial art—the stage setting and stage picture. The effect sought is comparable to that of the orchestra or church organ in music.[17] We hardly expect to produce great musical effects from the simple instruments such as the flute, the oboe, the French horn, or cornet. It is only in the more complicated instruments that we begin to find such possibilities as in the violin, the cello, or the piano, while for the greatest effects a complete orchestra is required. The only simple instrument that combines the qualities of a whole orchestra is the church organ with its several banks of keys, multitude of stops, and pedal base. So in grand opera all means are made to make for the same end and the results are correspondingly massive. As an actual matter of fact, though, we are disappointed in the

[17] As a matter of fact the orchestra is necessary to produce harmony, impossible upon many single instruments such as the flute. The complex of orchestral tones is no more complex than the complex of color tones in a picture.

appeal made by grand opera if we expect all that I have indicated. We really go to opera to hear Madame this or Seignor that sing a certain part, for which, quite likely, they are especially noted and if our sensibilities are at all easily jarred we are constantly offended by the awkwardness of the chorus, the poor support of the prima donna and such like details. The whole thing is so complex that some parts of it offend some persons.

As to the artists' state of mind I refer to what was said in the forepart of this chapter and particularly to the quotations from Wagner and Shaw (pp. 92, 93). Here we are confronted by a demonstration that the springs from which arise the activities leading to the production of a work of art are without the clear field of conscious awareness. The evidence all goes to show that the activity is of the same character, in reference to the attitude of the artist towards it, as the activity which has its origin in that region I have called the proving ground for automatisms. It is the same in kind as that arising from a "complex."

The work of art then is peculiarly the expression of the individual because it has its origin in the hidden springs of character which are beyond control.

The inability to get away from these submerged determinants of conduct is admirably illustrated by the Flemish painters who, at the time of the Italian renaissance tried to borrow from the artists of Florence and Rome. Taine,[18] in his inimitable style, describes the result.

"There are two traits characteristic of Italian art, both of which run counter to the Flemish imagination. On the one hand Italian art centres on the natural body, healthy, active and vigorous, endowed with every athletic aptitude, that is to say, naked or semi-draped, frankly pagan, enjoying freely and nobly in full sunshine every limb, instinct and animal faculty, the same as an ancient Greek in his city or palestrum, or, as at this very epoch, a Cellini on the Italian streets and highways. Now a Fleming

[18] H. Taine: The Philosophy of Art in the Netherlands.

does not easily enter into this conception. He belongs to a cold and humid climate; a man there in a state of nudity shivers. The human form here does not display the fine proportions nor the easy attitudes required by classic art; it is often dumpy or too gross; the white, soft, yielding flesh, easily flushed, requires to be clothed. When the painter returns from Rome and strives to pursue Italian art, his surroundings oppose his education; his sentiment being no longer renewed through his contact with living nature, he is reduced to his souvenirs. Moreover, he is of Germanic race; in other terms he is organically a morally good-natured man, and even modest; he has difficulty in appreciating the pagan idea of nudity, and still greater difficulty in comprehending the fatal and magnificent idea which governs civilization and stimulates the arts beyond the Alps, namely, that of the complete and sovereign individual, emancipated from every law, subordinating the rest, men and things, to the development of his own nature and the growth of his own faculties. Our painter is related, although distantly, to Martin Schœn and Albert Dürer; he is a bourgeois, almost docile and staid, a lover of the comfortable and the decent, and adapted to family and domestic life. . . . It is evident that pupils of this class, even with great labor, will produce but little more than academic figures; man, according to their conceptions, is a draped body; when, following the example of the Italian masters, they attempt the nude, they render it without freedom, without spirit, without vivacity of invention; their pictures, in fact, are simply cold and meagre imitation; their motive is pedantic; they execute servilely and badly that which, in Italy, is done naturally and well. On the other hand, Italian art, like Greek art, and, in general, all classic art, simplifies in order to embellish; it eliminates, effaces, and reduces detail; by this means it gives greater value to grander features. Michael Angelo and the admirable Florentine school subordinate or suppress accessories, landscape, fabrics, and costume; with them the essential consists of the noble and the grandiose type, the anatom-

ical and muscular structure, the nude or lightly draped form taken by itself, abstractly, through the retrenchment of particulars constituting the individual and denoting his profession, education and condition; you have man in general represented, and not a special man. Their personages are in a superior world, because they are of a world which is not; the peculiar feature of the scene they depict is the nullity of time and space. Nothing is more opposed to Germanic and Flemish genius, which sees things as they are in their entirety and complexity; which, in man, takes in, besides man in general, the contemporary, the citizen, the peasant, the laborer, this citizen, that laborer, that peasant; which attaches as much importance to the accessories of a man as to the man himself; which loves not merely human nature but all nature, animate and inanimate—cattle, horses, plants, landscape, sky, and even the atmosphere—its broader sympathies forestalling any neglect of objects, and its more minute observation requiring the fullest expression. You can comprehend how, in subjecting itself to a discipline so contrary, it loses the qualities it had without acquiring those it had not; how, in order that it may arrogate the ideal, it reduces color, loses the sentiment of light and atmosphere, obliterates the true details of costume and of interiors, deprives figures of original diversities peculiar to portrait and person, and is led to moderate the suddenness of motion constituting the impulsiveness of nature's activity, and thereby impairing ideal symmetry. It finds difficulty, however, in making all these sacrifices, its instinct only partially yields to its education. Flemish reminiscences may be traced underneath Italian velleity; both in turn predominate in the same picture; each prevents the other from having their full effect; their painting, consequently, uncertain, imperfect and diverted by two tendencies, furnishing us with historical documents and not beautiful works of art."

A man cannot get away from himself. He is what he is at any one particular moment because of everything that has gone before. Whether he produces art or is merely an appreciator of

it the result depends upon the whole mass of mental material which has gone to the construction of his personality.

One is constantly running across admirable illustrations of this principle in reading—particularly of the old works of art. Neale and Webb[19] writing of church architecture say: "An age of church-building, such as this, ought to produce good architects, not only from the great encouragement given to their professional efforts, but from the increasing appreciation of the principles and powers of their art. And yet it cannot be denied, however we may account for the fact, that (at least among those for whom we write, the members of our own communion), no architect has as yet arisen, who appears destined to be the reviver of Christian art. It is not that the rules of the science have not been studied, that the examples bequeathed to us have not been imitated, that the details are not understood. We have (though they are but few) modern buildings of the most perfect proportions, of the most faultless details, and reared with lavish expense. It is that there is an undefined—perhaps almost undefinable—difference between a true 'old church,' and the most perfect of modern temples. In the former, at least until late in the Perpendicular era, we feel that, however strange the proportions, or extraordinary the details, the effect is church-like. In the latter, we may not be able to blame; but from a certain feeling of unsatisfactoriness, we cannot praise."

Their explanation runs as follows: "A Catholic architect must be a Catholic in heart. Simple knowledge will no more enable a man to build up God's material, than His spiritual temples. In ancient times, the finest buildings were designed by the holiest bishops. Wykeham and Poore will occur to every churchman. And we have every reason to believe, from God's Word, from Catholic consent, and even from philosophical principles, that such must always be the case."

[19] Introductory Essay on Sacrimentality: A Principle of Ecclesiastical Design to William Durandus: The Symbolism of Churches and Church Ornaments. London, 1906.

I think one must admit that it is quite impossible to imagine how anyone not imbued to the depths with the faith could have conceived of the marvellous beauties of the façade of Rheims or the choir screen of Chartres.

Not only is this so but this work can not, apparently, be adequately copied or reproduced at this day. Mrs. Pennell's[20] delightful descriptions of the French cathedrals are literally filled with lamentations over the work of the restorer. She says characteristically of Notre Dame of Laon: "But seldom anywhere has the restorer been so pitiless, and now, as you first stand before the façade, instead of being awed by its rudeness and strength, you are impressed chiefly with the excessive care the State has taken of it."

Art is a matter of emotion, not a matter of the intelligence. It is concerned with states of feeling not with syllogisms. As we have seen that feeling largely originates from springs of which the individual knows naught, and therefore cannot control, we are therefore prepared for an explanation of the problem of art which takes that fact into consideration. The Hamlet tragedy[21] is one of the very best illustrations of this condition. Here we have a great work of art produced by a man who did not know the motive actuating him, in which the principal character is throughout unable to explain himself, and viewed generation after generation by an enthusiastic but uncomprehending public. These are all characteristic of mental states that are conditioned by that region of mind which is the home of the "complex": the place from which emotions rise to the surface and make themselves known though their source remains a mystery.

In concluding this essay it will be well to review the general propositions which have been set forth.

[20] Elizabeth Robins Pennell: French Cathedrals, Monasteries and Abbeys and Sacred Sites of France. New York, 1909.

[21] Ernest Jones: The Œdipus-Complex as an Explanation of Hamlet's Mystery: A Study in Motive. Amer. Jour. Psychol., January, 1910.

Beauty is what may be called the universal æsthetic motive. Art must first of all be a beautiful expression. Beauty is the medium, and the only universally necessary medium, for artistic expression. In order that a thing may be beautiful there must be produced by it in the observer a certain psycho-physiological balance of effects. In addition to this it must produce, on the purely psychic side, if it is a true work of art, a certain emotional balance.

With beauty as a sine qua non must go certain motives primarily in the soul of the artist, but which, as a matter of convenience, we have spoken of as residing in the work of art. These motives are fundamental or primary and minor or secondary.

That fundamental motives are necessary to great works of art is apparent from the fact that these works persist generation after generation, despite changes in the political, social, economic conditions, despite changes of standards, and are accepted by peoples of different nations having widely different national traits of character.

The only springs of human character sufficiently fundamental to be the starting point of such motives are the emotions associated with self-preservation, and species-preservation. This thesis is demonstrated in its application.

The minor or secondary motives are less fundamental and relate to matters either of more restricted interest or resolve themselves into questions of technique.

All works of art are the result of, and appeal to, a complex of motives. Art can only be great which appeals to the fundamental motives and it is greater in proportion either to the simplicity and directness of that appeal or the complete domination of the appeal to the fundamental and the subordination as accessories of the minor motives, utilizing them solely to enhance the appeal of the dominant.

Minor motives may be made dominant even in works where appeal to the fundamental exists, and fundamental motives may

be greatly limited in their appeal in various ways, thus impairing the universality of their acceptance. Their appeal may be made to only a certain class of people, or a certain nation; to those only who speak a certain language, or who know certain historic facts.

The proper balancing of motives is the work of genius.

A full understanding of a work of art must be reached by an understanding of the artist and of the nation to which he belongs, which must include the social, political, economic, moral, religious conditions, geographic and climatic conditions, etc.

CHAPTER VII[1]

THE THEORY, METHODS AND PSYCHOTHERAPEUTIC VALUE OF PSYCHOANALYSIS

There seems to be an apparent, almost absolute, lack of comprehension which seems to be rife as to what may be included under the term psychotherapy. On the one hand, I hear the subject discussed by those who know much about it but who invariably assume, on the part of their audience, a knowledge which I feel sure they do not possess. On the other hand I am confronted on all sides by physicians who sum up all that is included under the term psychotherapy with the word "suggestion." These latter men see in the whole subject nothing but the use of suggestion and assume very much the attitude towards its use as a psychotherapeutic agent, as do many who consider the writing of a prescription the crowning act of the practice of medicine. These same men, too, will invariably make the statement that all physicians use suggestion more or less in their practice, and have done so since the days of Egypt and Babylon; and their attitude implies that there has been very little, if any, progress in its use or the knowledge regarding it since then. It seems to me high time that this state of blissful contentment, comfortable as it may be, should give way to some realization of the immense amount of work that has been done along these lines in recent years and to some of the results, both theoretical and practical, that have been reached.

In the first place we must escape from the influence of the shibboleth "suggestion,"[2] which for so long seems effectually to

[1] This chapter was printed, substantially as it appears here and under the same title, in the Interstate Med. Jour., September, 1910.

[2] I would define suggestion as the uncritical acceptance of an idea and its realization in action.

have blighted any efforts at individual thinking. It has been in the past a word to conjure with and use as a cloak for ignorance. The average use of the term suggestion implies a conception of mind that would permit of the addition of ideas, much as one would sprinkle the particles of salt upon his morning egg and permit their removal in quite as simple a way. There seems to be a popular delusion to the effect that an idea is something almost tangible in its definiteness, something distinct, and quite apart from other ideas and other phenomena of consciousness. To those who have some acquaintance with the phenomena of mind it is hardly necessary to say that all this is absolutely not so.

As an illustration of the complexity of consciousness compared with its simplicity, as implied in the conception of suggestion, let us consider a relatively simple mental fact. Suppose I look at an orange and so have what we call a percept of an orange. This percept, it can at once be seen, is composed of many elements. The perception is possible only as a result of the fusion of many sensations—roundness, yellowness, and the complex sensations coming from the eye-muscles in accommodation—plus the residuals of many previous experiences of the same character and which included the additional sensations of taste, touch, and smell. In addition to all this mass of material necessary to the formation of the percept, I tend to assume a certain attitude of mind towards the orange, to relate myself to it. I am pleased or displeased, the orange is mine or some one else's, and I tend to reach out and possess it with the intention and desire to eat it or I restrain myself because perhaps it is not mine. If now I shut my eyes and think of the orange, the idea of the orange with which I have replaced the percept is different from the percept, and calls up still further and more complex associations. In this illustration we can see how complex a simple mental fact is, and, more important still, how intimately it is bound up in a complex of associations with other mental material. Ideas cannot exist alone; what does exist is a mental state conditioned by events in the environment and related to those events.

Every mental state is a synthesis and like a chemical compound may bear little relation in its qualities to the qualities of its constituent elements. Every mental state, too, reaches back through an immeasurable line of other mental states to the very dawn of consciousness. There is nothing fortuitous in mental life. Determinism holds as definitely in the psychic as in the physical world and no mental fact can exist that has not its efficient cause in antecedent mental states. The sum total of the material of consciousness constitutes the personality, and I trust my illustration will give some vague idea of its almost infinite complexity.

The important thing to remember is the fact that all states of mind have efficient causes and are definitely associated with those causes in quite as inevitable a way as in the physical world. Psychoanalysis would be quite impossible if it were not for the presence of inexorable law in the field of mind.

Now let us examine a little the effects of suggestion. Perhaps I can illustrate best by a case. One of my patients had a phobia for red. Although very suggestible, sinking readily into deep hypnosis, and accepting posthypnotic suggestions, I found it almost impossible to remove this phobia except for a short time. It kept coming back but I finally succeeded only after I had taken up the same problem with other symptoms. The same patient often thought of suicide. I suggested to her in hypnosis that when the desire to kill herself came to her mind she would think of an hallucinatory cat that had been suggested to her during a previous hypnosis. After this suggestion was made, and I began to work on the suicide idea, the fear of red disappeared. At first the suggested cat came whenever she thought of killing herself. The cat amused her immensely and the idea of suicide was robbed of its affect. Then the cat came less often and the suicide idea resumed its sway until the suggestion was repeated. This only worked for a short time. The same day she broke a window to get glass to cut her throat. The next day the cat idea came when she thought of killing herself, but it was too weak to dis-

place the suicide idea. During the time these experiments were going on I was trying also another substitution. She had an idea at times that people hated her. I suggested in hypnosis that when this idea came she would see a bright flash which would distract her attention but not alarm her. This substitution worked very well and the idea that people hated her and the hallucinated flash of light gradually disappeared together. It was while this was disappearing, however, that the suicide idea returned in strength as described above. During this time a depression developed, a fear that when she went home she would get worse again. It was suggested that her right arm would jerk whenever she felt this dread. This suggestion was not well carried out and the idea that people hated her returned. Now, while in the midst of these attempted substitutions, she complained that she could not remember the names of persons and even of things; she said that this difficulty was getting worse.

These experiments suggest that we are dealing with conditions similar to those in the physical world that are controlled by the law of the correlation and conservation of energy. At first it is impossible to make the phobia for red disappear. It goes finally when the mind is taken up with the suicide idea. This is particularly rebellious, however. The idea of hate is made to disappear like the phobia for red. The cat idea comes for a while, then weakens and disappears. During this time a depression develops. An attempt to substitute an arm jerk for this is not carried out and the idea that people hate her returns. Then appears an anterograde amnesia. She forgets names of people, where she put her fancy-work, etc. There seems to be just so much energy, but not enough to go around. When it is used in one place it must necessarily be drafted from another, and so, although a symptom may be removed it either returns or some other takes its place. The basket will only hold so many eggs.

We see by these examples that suggestion really plays on the surface. The fundamental, underlying conditions are not reached

by suggestion. These underlying conditions which produce the symptomatology of the psychoneuroses are the same conditions that make suggestion possible. The accepted suggestion is quite as much a pathological product as the various symptoms themselves.

The particular way in which a psychoneurosis manifests itself is largely accidental. Given the pathological foundations, any particular thing that may be about and available at the time being may be used as a vehicle of expression. For example, one of my patients had epileptiform seizures preceded by an aura of green. He had had a fall which rendered him unconscious. He was lying upon a green baize face down so that the first thing he saw on coming to was green. Had the baize been red his aura would probably have been red. Had he been looking up instead of down perhaps he would have had no aura. Another case fell striking her occiput severely, became unconscious, and awoke in an attack —the first one. Thereafter each attack was ushered in by pain in the occiput.

These illustrations serve to show, I think, that the psychoneurotic symptom is an end-product only and that it may be varied to any extent, even removed, without affecting the underlying condition out of which it grew and which made it possible. Just as the old psychiatrists sought patiently in the autopsy-room for the solution of the insanity riddle without appreciating that they were dealing only with end-results, so the psychotherapeutists have for long been using suggestion without appreciating the necessity of going deeper than the surface in attacking the problem.

Psychoanalysis aims to avoid this superficiality and to go to the root of the whole matter and disclose fully the mechanisms upon which the symptoms depend. In order to explain how this can be done a few words are necessary to outline a little further some of the mechanisms of consciousness and the theory of these abnormal mental reactions.

The field of full, clear, conscious awareness is a relatively restricted one. A mental act repeated a few times tends to become automatic, to retire from the full light of attention so that consciousness may occupy itself with new adjustments. The example of the piano-player (Chapter I) is a good illustration. The painfully conscious attention to every detail during the period of learning is later substituted for a nonchalant, quasi-automatic production of a piece while engaged in casually carrying on a desultory conversation. Clear consciousness only arises at points of conflict, at times when new adjustments are to be made. All other acts tend to sink into the dimly lit, twilight regions from which the focus of attention has been removed.

The majority of our acts then are controlled from this unaware region of mind, relatively few being directed from the field of full, clear, conscious awareness. Let me give an example to illustrate this and how clear consciousness only arises under the necessity of a new adjustment. A lady to whom I had occasionally to address a note had asked me to address her by her given name and middle initial rather than the way I had been addressing her. I had occasion to write to her several times but did not comply with her request. She called me to account for not doing so and thus forced me to discover why I had not. In analyzing the situation I found that each time I had written to her I had had a distinct feeling of conflict, when I came to address the envelope, without being fully conscious of the reasons for it. Further analysis showed the components of this conflict to be a knowledge that there was another person by the same surname in the apartment where she lived, and, while I knew my letters had never heretofore gone astray, I did not know the other person's given name, and thus felt the possibility that they might be the same; then the name I was requested to use called up a painful memory which I automatically escaped by not using it. These inhibitions naturally interfered with carrying out the request and I went on following the line of least resist-

ance, controlled by the subconscious motives. By bringing the whole matter fully to my attention, into clear consciousness, a new adaptation, a compliance with the request, became possible.

This example is a very good illustration of the mechanism as we see it in the psychoneuroses, for we must remember that there is no difference in nature between the mechanisms of health and disease. The psychoneurotic suffers from just such a disintegration of the elements of his personality. Certain mental states are not adequately synthetized. These are the disagreeable experiences of life. The mind in self defense endeavors to crowd out, to relegate to the limbo of the forgotten, experiences and memories that are painful. These experiences are, so to speak, put aside, pushed into a dark corner, into the obscure regions of consciousness outside of the focus of the bright light of attention. To be technical, they are repressed. If repression has been accomplished, however, it is not without a certain cost. These experiences, crowded out of clear consciousness, out of the possibility of synthesis with the rest of the personality, begin to lead a quasi-independent existence. They constitute submerged complexes.

The complex, crowded out of relation with the personal consciousness, seeks for expression and because it is not synthetized with the rest of consciousness, because the individual is not aware of its existence, its expression cannot be controlled and guided into the usual channels and so it creates the symptoms of the psychoneurosis. One of my patients suffered from accesses of anxiety and fear without apparent cause. A short time before her husband had been on a "spree" and one night got up about two o'clock to go out. His wife was frightened for fear in his condition he would associate with lewd women. The thought was so hateful and painful to her, however, that it was crowded out of consciousness. The detached emotion continued to manifest itself even though the reason for it was not permitted to enter her mind.

This is a relatively simple example but shows quite well that the feelings of fear this patient had and which prompted her to throw herself out of the window could not have been reached by suggestion. The mechanism on which they were dependent must first be uncovered before there was any hope of dealing adequately with the situation.

The extreme difficulty in locating and uncovering the complex is due to the symbolic form in which it usually manifests itself. The painful memories of disagreeable experiences, unethical, unconventional, and otherwise impossible and hateful wishes, while crowded out of mind by what Freud has so aptly termed "the censor of consciousness," nevertheless struggle to find expression. The complex cries for recognition, the censor will have none of it—the fight is on, the conflict wages, until finally a sort of compromise is reached by permitting the complex to come into clear consciousness, but only on pain of not disclosing its true self, under the cloak of a complete disguise.

For example Freud's case of Elisabeth.[3] She was engaged in nursing her sick father who afterwards died. One evening, spent away from home at the solicitation of her family, she met a young man of whom she was very fond and he accompanied her back home. On the walk home she quite gave herself up to the happiness of the occasion and walked along oblivious of her duties. On reaching home she found her father much worse and bitterly reproached herself for forgetting him in her own pleasure. She immediately repressed this disagreeable thought from her consciousness. Now she had, each morning, to change the dressings on her father's swollen leg. To do this she took his leg upon her right thigh. The suppressed complex seized upon the feeling of weight and pain of her father's leg upon her thigh as a handy and efficient means of expression and so the repressed erotic wish comes into consciousness under the disguise

[3] Freud: Selected Papers on Hysteria and Other Psychoneuroses. Jour. of Nerv. and Ment. Dis., Monograph Series, No. 4.

of a painful area of the right thigh corresponding in extent and location to the place upon which she rested her father's leg.

From the situation as presented thus far two problems are immediately suggested. First, of course, the therapeutic problem; and secondly, the problem of uncovering the submerged complex, of discovering the hidden mechanisms of the psychoneurotic symptoms. They are the problems of psychotherapy and of psychoanalysis. Let us take the latter first.

When we have a case that we have decided to try psychoanalysis with, the first thing to do is to have a detailed talk with the patient, covering the manifestations of the disorder and also touching the main events of the entire life as far as possible. We must remember that the symptoms with which we have to deal are only end-products—the results, perhaps, of a mechanism that seems fairly simple, but in the last analysis they are results made possible by all that has gone before—the entire psychic life of the individual. Our initial talk, therefore, serves not only to give us an account of the symptoms but to orient us with regard to the general makeup of the personality with which we have to deal.

During the course of this conversation it is inevitable that certain points will stand out as being important to pursue further. Here begins the real problem of psychoanalysis.

The method of procedure, the so-called method of free association, is roughly as follows: The patient needs to be alone with the physician in a room as far as possible from distracting influences—noises, bright lights, etc. To this end, too, the patient should be disposed as comfortably as possible so that physical discomfort or uneasiness will not interfere. It is well to have the eyes closed also, so that distractions from the visual field may be eliminated as far as possible. This general state of quiescence, and passivity can be enhanced by having him observe some monotonous sensory stimulus that dominates the sensorium and shuts out less insistent and inconsiderable sensations, such as the buzzing of a faradic coil. In this condition the particular feature

of the history that it is desired to pursue further is presented to the patient, and he is asked to hold that event before his mind, to make no mental effort of any sort, such, for instance, as trying to remember, but to tell absolutely every thought that comes to his mind, no matter how fleeting, no matter how inconsequential it may seem or no matter how little bearing it may appear to have on the question at issue.

The theory of this procedure is that if the patient does not direct the thought in any way, every idea that comes must of necessity have some relation to the event held before the mind about which enlightenment is sought. The monotonous sensory conditions are observed to prevent distracting influence from outside sources. The directions to the patient, if carried out, prevent distractions from inside sources.

It is difficult to secure this condition of passivity in many cases, especially those who have never consciously used their minds and therefore do not know how to comply with the directions. It is difficult to get the patients to tell all the ideas that come. They naturally refrain from mentioning those that appear to be entirely fortuitous and to have nothing to do with the case. It will be seen from the theory, however, that these ideas cannot be unimportant, and that they must bear some relation to the central event.

This is the method of attack to fill out the information acquired in the initial conversation. The symptoms should all be dealt with in this way for the purpose of uncovering the submerged complexes and disclosing their mechanisms. As we proceed new events will constantly be brought to light that must also be pursued, as must also all the significant events of the patient's life.

Nothing is too trivial to be worthy of analysis, nothing but may throw light upon the situation. All the little slips of the tongue, forgotten incidents, points at which two recitals of an occurrence do not agree, even witticisms are necessary to trace out, while the dream life offers an abundance of rich material for study. Let me give an example from a case I have been recently studying.

A young lady, refined, educated, and modest, entered a ball-room at a country club, from the piazza where she had been strolling with a gentleman with whom she was in love. She wore a brilliant diamond star at her breast. A gentleman stepped up to her and admired the star whereupon she said: "Yes, the stars are always brightest in the milky way." Immediately realizing what she had said she retired, confused and blushing and filled with apprehension as to what the gentleman would think of her. Analysis of this gaucherie showed that while walking on the piazza with her lover they had been observing the stars. They had picked out the big and little dipper and she had remarked that the stars were brighter in the milky way. Meanwhile a popular song was being played "Love Me Only," and her lover told her that her eyes were the only two bright stars in the world for him. She was frequently told she had bright eyes and now thinks of herself at this period of her life as having had bright eyes. Incidentally she knew how to use them. She was wearing a diamond ring given her by her lover on her birthday. She evidently regarded it as an engagement ring for she wore it on the engagement finger. She told him the ring reminded her of a star. He told her that she was so good and kind that she would have a good many stars in her crown. At this point I tried free association, and she told me of a time when a friend had written her destiny to be opened ten years afterwards and read. This destiny pictured her at twenty-six with three children, the youngest a bright blue-eyed baby. She recalls also that her lover wrote a poem to her called "My Star." It is significant that her lover had bright blue eyes, that she always associated blue eyes with him, that she dreamt of blue-eyed children, that once when holding the blue-eyed baby of a neighbor her lover had said to her, "You make a pretty picture. Blue-eyed babies are becoming to you." It is also significant that in the word associations her reaction to the word "sky" was very long, 4.6″, the preceding reaction being 4″ long, because it evidently was significant, while the sub-

sequent association which was evidently indifferent was 3″. Her response to the word "sky" was "beautiful blue" and on repetition, "blue, sunny blue sky."

		Reaction	Reproduction
Dog,	3.	Pet I had once.	+
To talk,	3.2	I've always loved to talk.	+
Carriage,	4.	Carriage at home.	+
Sky,	4.6	Beautiful blue.	Blue, sunny blue sky.
Straw,	3.	Hay.	+

No matter which way we turn we are confronted by love, marriage, bright eyes and blue-eyed babies. I think the explanation is fairly apparent. It meant a wish, concealed in the remark, to belong to her lover and to have beautiful, bright, blue-eyed babies of his at her breast.

We must never forget, too, to investigate the dream life. Freud has shown that the mechanism of dreams is quite the same as that of the symptoms, so we may expect to get valuable information from this realm. The method of procedure is the same. The patient quite likely will deny dreaming at all at first but pursuit of the inquiry may very well disclose a rich dream life. The dreams are especially valuable and often throw a great deal of light on the situation. To illustrate from the same patient: She told me she dreamt she was standing by the edge of a precipice, a man came along and pushed her off, at the base of the cliff was a mass of writhing serpents, just as she was about to fall among them she screamed and awoke. The impression was created on listening to her tell of this dream that she had been much frightened at being pushed from the cliff. This, however, was but the elaboration of the waking consciousness. She was not frightened to any extent. The analysis shows why. The cliff was familiar to her as being a place she frequently visited. Standing on the edge of the cliff was symbolic of a social and moral danger. She had never seen her lover since she had married and had wondered, if she were thrown with him, if he would try and tempt her. The man who had pushed her off the cliff was her lover and the falling

down really representing a moral fall, did not really frighten her very much, but was rather pleasant as it involved his companionship. As she nears the bottom, however, she sees the den of serpents. The serpent for her represents sin and recalls the sin in the Garden of Eden. Her fall has been pleasant until she sees its end in sin. This end is so hateful to her that she cannot even permit the idea to enter her thoughts. The censor of consciousness, lulled by sleep, has permitted this symbolic wish-fulfiling play to go on up to this point, but now he must be aroused to full activity and press back to the furthest and darkest recesses even the suggestion of a sinful denouement. The patient awakes. See how full of information such a dream is of the innermost thoughts, inclinations, and desires (Chapter III).

This is the method of unraveling the tangled network of mental life. It takes weeks, months, perhaps years of constant effort. There is no royal road, no short cut to results. What it has taken a life time to produce cannot be laid aside in an hour. How different a conception dominates this method of procedure from that of the method of suggestion.

At times in the course of the analysis it seems as though no further progress were possible. At these points, and perhaps also to start with, just after the initial conversation, it is well to try some word associations. This is done by taking the reactions to a list[4] of say one hundred words carefully chosen to cover the ordinary field of the average person's possibilities of complex formation. There may be distributed through this list words that for some reason may be supposed to have significance.

The method of procedure is to read the words to the patient, instructing him to answer immediately the first word or thought that comes to his mind after hearing the word read, and recording the time it takes for this reaction. The most practical way for recording the time is by a stop-watch graduated to fifths of a

[4] For such a list see White: Outlines of Psychiatry. Jour. of Nerv. and Ment. Dis., Monograph Series, No. 1.

second. After the list has been completed it is repeated in the same way, the time need not be recorded, however. The patient is asked to repeat the same associations he gave the first time if he can recall them.

When one of the words in the list touches a complex, is a complex indicator, a marked disturbance in the reaction is noted. This disturbance shows in several ways: peculiarity of the type of reaction; increased length of reaction time; irradiation of the disturbance to the next one or two associations; and failure to repeat the same association. I have already given some illustrations. I will add another at this point. The association to the word "wagon" in the same patient I have been giving illustrations from, was "wagon, many I see on street," but took 11.8". Free association disclosed an escape from a sanatarium and a drive in a wagon, which she had come up with on the road, to her friends. Another patient I casually gave a few words to. Knowing that her mental breakdown was associated with the stealing of jewelry by her nephew, I included the word "pin." She could not reply but said she could if the word were medal. She then flushed, began to cry, and detailed an incident when her sister had left a medal in her room and upon returning discovered it was missing. It was quite evident that her nephew had stolen it. She had never told of this incident although repeatedly questioned with a view to discovering all the things of importance in her history. Both of these instances illustrate the uncovering of events in the lives of patients, which although in these particular examples might not have been of much importance, still would probably never have been brought out by ordinary questioning. This method is valuable then for with it we may find some unexpected complex or some new line of inquiry, that we can continue with to advantage.

The method of word association is often just a "fishing expedition" in the hopes of catching something and the list of words generally used is chosen to cover as wide a field as possible of

experience. Oftentimes, of course, words may be introduced that are thought to be suggestive by the examiner.

It will probably occur to many to wonder how it is that we can expect to find memories reaching back for years sufficiently well preserved to be helpful. As a matter of fact the memories of all repressed experiences are perfectly clear, no matter how old. The explanation for this is that being repressed they are dissociated from the every-day events of life, they are kept in their original form, they have not been subjected to the attrition and amalgamation with the intricacies of associational life. They do not fade out by this process of absorption as do the memories of indifferent events, but remain where ever after they may be brought to light by analysis and used as helps for cure.

Thus we have three main inquiries, three avenues of approach to our psychoneurotic patient—word association, free association, and the analysis of dreams. With these at our disposal possibilities, heretofore little expected, open up.

It will be seen from this short description what a far-reaching method this is. A method of analysis from which no event of life, no matter how apparently trivial, is free. A method that in its results lays bare not only the immediate antecedents and causes of the symptoms, but the whole innermost life of the patient reaching back even to the period of early childhood. This, of course, takes time. A case of any complexity and difficulty quite generally takes several months, of at least two or three seances each week, to reach a final result.

The element of time is an important one for more than one reason. In the first place, it may, and does, largely preclude the possibility of the general use of this method by the average practitioner. It should not, however, lead to adverse and destructive criticism of the method for that reason alone, as it has done in some instances. If the psychology upon which the method is based is true, we must of necessity accept it whether it meets with our convenience or not. Then it is rather silly after all to have

a scientific position condemned because to carry out the resulting methods takes too much time. An effort might legitimately be made to improve upon the method, but truth does not yield to attack based upon such principles.

There is some reason to believe, however, that the time needed to effect lasting results in this class of cases cannot be materially shortened. These cases come to us in a sea of trouble, tossing about blindly and hopelessly on the waves of emotion, far from shore and safety, resigned often to a life of suffering, desperate often at seeing no hope of release, but quite unable to help themselves at all. Of course, in the nature of the case, the real troubles—the buried complexes—not only are not known by the patient, but they cannot be known, and the obvious explanations for the symptoms that the patient often has ready at hand, not only are not the real explanations but they cannot be. Nevertheless, the original repressions and the dissociations in consciousness resulting are quite characteristically due to a false attitude towards the problems of life. The young woman, in love with some one of whom the father disapproves, may have a fleeting thought that the father's death would straighten matters out and enable her to marry without further opposition. Now, instead of reacting to such a thought naturally, by realizing that as a conscious human being such a thought was merely an expression of her wish to marry the man she loved, by the expression of a natural desire that the obstacles in the way be removed, and putting it quietly and without passion aside as impossible of consideration because of its unethical character, in fact unworthy of even contemplation, she becomes terribly horrified that such a thought could even find entrance to her mind and represses it immediately as not only too horrible for consideration, but with a sense of chagrin, shame, and self-reproach. Such a putting aside, side-tracking of a disagreeable thought, such a refusal to meet an unwelcome guest in the open, frankly, such a refusal even to see the disagreeable does not make for effiecient reaction, does not enable the individual adequately to adjust.

These patients come to us with no adequate philosophy of life, no raft with which they can safely reach shore in their sea of trouble. They have narrow, distorted, perverted view-points, and these it is necessary fully to appreciate in the course of the analysis, for these must be corrected. They cannot be corrected by a pronunciamento, by laying down what the analyzer believes to be the law and the gospel on the different questions involved, but must be slowly changed by a process of reëducation in which the personality of the physician and his attitude towards the whole situation plays a prominent part. And herein lies the importance of the element of time.

This reëducation of the patient is dependent perhaps more upon the attitude of the physician than upon any particular thing he may say. The personality of the physician plays a certain rôle. Whereas, theoretically, his personality should be nil in its effects, if the method were accurate, still the method is not perfect and has to be carried out by human means. The patient, before the analysis has proceeded far, sees that to go on means to bare his very soul. One does not confess his innermost thoughts to everyone; the hysteric, for example, is not impelled to unburden himself of his story to the passer-by like the Ancient Mariner. Quite the contrary. The whole trend of his malady is toward concealment, repression. The personal characteristics of the physician do, I think, play some part, although I am willing to admit that this part is less in proportion to the perfection of the method.

Now as to the physician's attitude. In the first place his attitude should be one of absolute lack of critique. The physician is merely after facts, for by the analysis he hopes to help the patient by removing the symptoms. He will in the course of his analysis hear many intimate thoughts, learn of many wrong, perhaps disgusting or even criminal acts. He should express no surprise. They are but facts, that is all. The patient must not be blamed or laughed at. He has already done that for himself many times. In fact that is often the trouble. Self-blame may have been the

cause for the original repression. His moral sense is already keen, in fact, perhaps, too keen, and an element of prudery or over-scrupulousness must be removed for a more healthy attitude of mind.

Sympathy is likewise not to be indulged in. The patient does not want it and it is not helpful. The attitude of the physician, however, has as an element the most important factor in sympathy—understanding. To be understood is indeed a privilege. For years the psychoneurotic has failed of being understood, has refrained from talking to persons about himself, perhaps, after one or two disagreeable experiences, for fear of being laughed at. In fact, he has failed to understand himself. Now to find some one who does understand—what a relief—and it is helpful in no small degree in the progress of the work.

The demands upon the physician are very great. Not only must he have no end of patience, and be able to give a great deal of time, but he must be constantly on the alert to grasp every clue and must be always resourceful in the face of the unexpected. For example, a woman suddenly injects a query as to the sinfulness of preventing conception. Here is an opportunity for moral orthopedia to be grasped, it must not be allowed to slip by. It requires, however, full preparation, full preparedness. In the particular case I have in mind a great deal of the emotional depression hinged about this question. It was necessary to discuss it, but by no means was it easy to do so. A discussion of such a subject, if it is to be helpful, requires a view-point free from all narrowness, free from petty dogmatism, religious or otherwise, broad, comprehensive and above all humanistic.

I am reminded in this connection of a recent experience. A woman of education and refinement told me in the course of an examination of a sexual experience in early childhood. She never had told anyone else in her whole life about it and it was with the greatest difficulty she could bring herself to speak of it. When she had related it to me, however, I was able at once to

correlate it with certain pre-nuptial practices carried out by the women of certain savage tribes, and indicated to her how this experience was an instinctive carrying out by children of practices that were well developed by savages. This correlation was helpful in enabling a discussion of the occurrence from a social standpoint and did much to rob the event of that disgust which is so frequent and disturbing an element in the recollection of such experiences.

It is these elements in the attitude of the physician—his lack of critique, and his understanding—that are the quiet determinants making through the weeks and months of psychoanalysis for a more wholesome, a more robust philosophy of life, and finally when all the submerged complexes and the mechanisms of the symptoms have been uncovered our patient emerges literally born again. The disordered material which the patient brought to us has, if we have been successful, been sorted over, re-arranged, added to, and built into a new and enduring structure. Such, in brief, are the theories, the methods, and the aims of psychoanalysis as a psychotherapeutic agent.

CHAPTER VIII[1]

PREVENTIVE PRINCIPLES IN THE FIELD OF MENTAL MEDICINE

The field of mental medicine, which by the way is much broader than that implied by the term insanity, with which it is ordinarily supposed to be coextensive, is generally presumed to offer little either as a result of treatment or prophylaxis. It will be my object in a few words to try and dispel this impression—to bring a message of hope.

There are many causative factors that may operate to unbalance the mind. In fact there are but few cases that come to us but owe their condition to several rather than to one cause. Many of these causes are familiar and well recognized. Such causes as the infectious diseases, such as typhoid, yellow fever, malaria, smallpox, diphtheria, I need not mention. The work that is being done in controlling infections of this character naturally controls also the mental sequelæ that are not infrequent. I may say in passing, however, that important as is the problem of tuberculosis, and little as I would desire to minimize that importance, still I am of the opinion that the two venereal diseases, syphilis and gonorrhea, produce quite as much suffering and I am sure that the former alone produces much more insanity, directly at least than tuberculosis, and further, while the tendency of tuberculosis is, to a considerable extent at least, to weed out the unfit, here is a disease the distribution of which is controlled by accident and so it takes from us only too often the most useful and efficient members of the community while the

[1] This chapter, in an abbreviated form, was read at the annual meeting of the American Public Health Association in Milwaukee in the summer of 1910 and is published under the same title in the Jour. of the Am. Pub. Health Ass., February, 1911.

latter disease sterilizes many a woman who would make a good mother.

The venereal diseases, particularly syphilis, are of extreme importance in the causation of insanity and come directly within the province of the public health officials. Of equal importance, though having directly sociologic as well as medical bearings, is alcohol. Alcohol and syphilis taken together are generally regarded as being responsible for 25 per cent. of the insane. Although at first sight this statement is alarming on second thought it is reassuring because both of these causes are strictly preventable.[2]

However, it is not my intention to treat here with matter of this sort but rather to call attention to some opportunities for the utilization of preventive principles which are less obvious.

These preventive principles have to do with those mental disorders that are not primarily dependent upon physical disease. There are a host of such disorders that are dependent to a greater or less extent upon purely psychological factors—mental causes. The individual at some point or other comes into conflict with the conditions about him, in which he must live, and to which he must adapt if he is to proceed in life with anything like efficiency and he fails to make the necessary adjustment. He is unable, for example, to reach a condition of emotional calm after the loss by death of a dear friend or relative, or after a disappointment in love; he cannot get on his feet again after being ruined by a trusted employe; he is placed in a position of too great complexity for a limited mental equipment and cannot produce results that are up to reasonable expectations. At these periods of conflict failure is not infrequently expressed by the development of a psychosis. Failures of this sort, the inability of the individual to square up with the events of every-day life, upon analysis are found to depend largely upon faulty and erro-

[2] Salmon, Thomas W., M.D.: Two Preventable Causes of Insanity. Pop. Sci. Monthly, June, 1910.

neous view-points, upon vicious habits of thought, upon narrow and inadequate ideals, false notions and ambitions, in short upon a biased mental attitude towards the world of things and events.

Here are a series of conditions which strike one immediately as due in the larger sense to bad education, and in fact they are. The conflicts which arise, arise in large part because the mind has been so constituted by previous experience as to make conflicts out of certain kinds of circumstances rather than to adjust peaceably. Take for example the man who is always criticising every one about him, this thing and that are wrong, his superior in rank should have done thus and so, he would have done differently, etc. That man makes the greatest amount of trouble for himself, he positively insists upon being unhappy, instead of accepting conditions which he cannot change and making the best of them he frets and chafes under them, he actually looks for things with which to find fault, he positively will not be content in the sense in which contentment is desirable. Such a man is inviting disaster by using up his energies in a useless thrashing about usually without the corrective of that satisfaction which comes from things accomplished. The young woman, of a distinctly different type, who develops a hysteria as the result of a disappointment has actually succumbed to a psychosis because of her failure to accept—to adjust. Instances might be indefinitely multiplied but the fact I mean to bring out is that numerous psychoses are dependent upon mental causes which in their nature are removable or preventable, and subsequent attacks after recovery may be produced in the same way.

People such as these, who present characteristics unfitting them for a peaceful adjustment to the difficulties of every-day life owe their defects to faults of education—by which term I include all that life of experience which is addressed directly or indirectly to the preparation for the independent life of adulthood.

The places where this education is for the most part acquired are two—the school-room and the home. Let us speak for a

moment first of the home. The fundamental fact here is that the important groundwork of later life is laid much earlier than is ordinarily supposed—perhaps in the first four or five years of life, and this is the period in which no one will question that the mother's influence is supreme. Home conditions during this period are therefore most vitally important for the future. I will not mention the obvious effects of sickness, crime, alcoholism, all of which go to make a sordid, wretched place for the child to grow up in, but call your attention to two matters of importance. Child labor and the employment of women.

We cannot expect much of the generation the children of which were brought up in the mines and factories. Child life that is deflected into hard labor and unsanitary health-destroying surroundings when it should be unfolding and developing character in school, home and play must become deformed and stunted.

These industrial conditions have gone even further than placing the child at labor. The mother, too, has found her way in large numbers into the factories, so that again the child is robbed of its own and not only he but the generations to come must pay the toll of this greed for gold.

It has been shown that hard work by the pregnant woman tends to bring about miscarriages, or if the child is born at term, to result in a poorly, undeveloped child. The energy which should have gone to the growing child has been deflected to the loom. Children born under such conditions must of necessity be seriously handicapped; they must find the difficulties of life often too great, so what wonder that later they break down, become insane, paupers, criminals, it matters not for all these are evidences primarily of mental defect, mental insufficiency, inability to meet life's problems. I am in hearty sympathy with laws governing child labor and the employment of women. The laws governing the employment of women that are in existence in most of the European countries seem to be well conceived. They provide for a certain number of weeks both before and after confinement

free from labor with the salary continued. They are a healthy reaction against the too great individualism of the present day and an acknowledgment that we owe something to those others in whose society we live and from which we derive so much. The day is past when the individual will be conceived to have the right to ruin as many souls and bodies as he wishes and then toss them ruthlessly aside on the dump heap of public charity for this and succeeding generations to care for.

A propos of this question of the child and the home Miss Dorr,[8] in a recent magazine article, has emphasized the present condition of affairs by calling attention to the lack of provision for the child in the modern city. There is literally no place for him. There is no ground for play and many apartment houses even refuse families with children. Then again the conditions that used to maintain in the home have changed. In the old days the child not only could run wild in the woods but he was early initiated into some form of wholesome craft work. Now, it is the immense factory, and if the family be poor both child and mother work there, while if they be rich or well-to-do the child slowly becomes an artificial product of civilization with all the animal trained out of him and neither he nor the mother have any form of wholesome physical occupation.

A great deal is said about the strenuous life of the present day as a cause of neurasthenia but my experience is that more people become nervous because they have nothing to do then because they have too much. The man is relatively well off and he may always have work to do, but for the middle class and well-to-do woman there seems very little. Everything she needs can be supplied better and usually cheaper than she can produce it. With practically nothing to do, with time hanging heavily upon her hands, she ekes out a miserable existence of dreams that don't come true, of ambitions unrealized, of lack of fulfilment—in short

[8] Dorr, Rheta Childe: A Fighting Chance for the City Child. Hampton's Magazine, August(?), 1910.

of failure. These are the potential neurasthenics and it is against this hopeless, useless existence that so many of our women have to lead that the so-called suffragette movement is to my mind a healthy reaction.

At this point I cannot fail to mention that recent development of the desire for race betterment—sterilization of the criminal. It is very hard to find any justification for such legislation unless it be the good intention back of it and we all know the fate of so many good intentions. The only basis on which I can conceive that such legislation might be founded is on that of the theory of unit segregation and gametic purity as set forth by followers of the Mendelian hypothesis. I have never heard the suggestion of any such reason but even so this theory has already been vigorously attacked and there seems little warrant for such applications of hereditary principles.

The whole question of heredity is altogether too vague in its application to man to warrant any such radical measures. Perhaps the matter of heredity might be summed up best in the characteristic chapter heading of Ellen Key[4] in her admirable book, "The Century of the Child," as "the right of the child to choose its parents." This is not a witticism but involves a fundamental privilege which is rarely consulted. How frequently in this super-sensitive civilization of ours are the rights of the next generation given consideration? How often is the bringing of a new soul into the world given as much consideration as the canary or the selection of a suitable paper for the dining room? Why we are not even permitted to talk of such things. A salacious prudery which fills columns of the public press with the description of the seduction of a young girl insists upon a becoming modesty in such matters that relegates the question of human breeding to the background.

It is well to keep in mind that the symptoms of that group

[4] Key, Ellen: The Century of the Child. G. P. Putnam's Sons, New York and London, 1909.

of mental disorders comprised under the general term insanity are acquirements. Whatever potentialities the germ may have had these symptoms have been added to them and not developed as an innate necessity—at least in the special form they assume. The full possibilities of the influence of environment are only beginning to be appreciated. If a change in environment will actually change the shape of the skull in one generation, as has been recently shown by Professor Boas, what may we not expect from hygienic surroundings and proper educational methods?

Passing from questions of heredity and other factors that are uncontrollable in the individual, let us consider the difficulties that arise in the course of mental development.

I can approach this question by asking why it is that only in adult life do dreams become symbolic and thus hide their real meaning from us. The answer to the question is the crux of the situation.

The child in his wish-fulfiling dreams, be they sleeping or waking, goes direct to the point unhampered by conventions, unrestrained by social customs or the fear of disapproval. He knows nothing of these things. The adult on the contrary has become so painfully conscious of them all that he even disguises them to himself, he is afraid to acknowledge them to himself and so clothes them in a complex symbolism. At least so goes the theory. What has happened in the meantime? Education.

One need not be disturbed by this use of the word education. Remember that this term includes all that life of experience which is addressed directly or indirectly to the preparation for the independent life of adulthood. From our standpoint let us see some of the things this process implies.

The whole process of education has to do very largely with the building up of certain attitudes of mind towards the usual experiences of life.

As has been seen, acts have been divided into reflex, automatic, and voluntary. But this by no means exhausts all their possibili-

ties. Many acts result from experiences that have been so frequently repeated that they issue as a natural consequence under certain conditions but by no means sink to the level of the automatic. The conventional mode of greeting, shaking hands, "How do you do, I'm glad to see you," reaction has become so much a habit that it does not require the clear consciousness of close attention, nor hardly a grade of activity that could be dignified by the term voluntary. Conscious volition may initiate the reaction but once started it proceeds in the usual channels.

This region of consciousness, beneath the voluntary activities but above the automatic activities, it will be recalled, is the region which I have called the proving ground for automatisms. It is the intermediate state on the way from the voluntary to the automatic. We are all the time submerging into this territory, the ready made mechanisms, as it were, for responding to the ordinary events of life. The usual occurrences are soon reacted to in an habitual, stereotyped fashion. And so with our attitudes of mind, we come naturally and unconsciously to be pleased or offended, as the result of our education, by the occurrences that go on about us.

Certain types of reaction are common to a large proportion of persons, as for example, the admiration displayed for acts of physical courage or the disgust felt for acts involving moral turpitude. On the other hand certain types of reaction vary among individuals according to their education and their habitual experiences. Human excreta generally give rise to feelings of disgust. In the laboratory man, however, they frequently give rise to quite opposite effects. The clinical pathologist is quite capable of ecstasies over a urinary sediment which is to him beautiful. For the scientific mind the saying that "dirt is matter out of place" is quite true and might well be paraphrased to apply to the moral sphere.

This submerged portion of consciousness, whence issue these reactions we are discussing, is of great importance so far as the

activities of the individual are concerned because of its large emotional content. Human actions, to the everlasting despair of the idealist, are initiated and controlled only to a limited extent by reason. The vast majority are more or less automatically set in operation by already organized mechanisms which determine the attitude of mind de novo towards the experience whatever it is. Attitude of mind is essentially an emotional, as opposed to an intellectual state and so is rarely subject to review. The whole process of education, the results of experience, are considered to be successful or not depending upon whether the proper attitudes of mind, the proper feeling-tones, emotional states, constellations have been cultivated with reference to the experiences of life.

Education from beginning to end is a process, largely of suppression. It is the "Thou shalt not" of the Mosaic law that dominates at least in childhood. The spontaneous natural impulses must be repressed and made to fit the mould of the social conventions. This means that conflicts begin at once between inclination and desire and the restraints that limit the individual in carrying out his wishes. Some sort of compromise has to be struck that will result in relatively adequate adjustment. When we realize that one of the most serious of afflictions, an incurable psychosis, may result from a failure to compromise, or from a broken compensation, we can see how important becomes the study of the laws that govern this process.

Think what it would mean to be able to appreciate the beginning of the conflict, to understand the nature of the forces involved before they had succeeded in impressing the phole psyche into service! Then would be the time to turn the forces aside into more useful channels—to sublimate the conflict.

Pus is a product of the defense mechanisms of the organism, but if left to itself may burrow from its place of origin and penetrate a vital organ and so bring about death. The surgeon, by a skilful stroke of the scalpel, at the point of election can liberate it and without in any way impairing the defenses of the organism

help to so direct them as to make for health. For the smaller and less important accumulations of painful emotion a ready outlet is usually found. The woman has her cry, the man roundly curses his enemy whom he conjures up before his mind's eye. These reactions are more often than not effective. As small collections of pus near the surface are easily removed so in these cases the emotional tension is easily relieved.

Some of the more serious conditions require more careful handling. Talking the trouble out with a confidant is a frequent means, while the confessional has through the ages served largely as an agent of psychotherapy. Again the psychiatrist must acknowledge his indebtedness—this time to the priest. The old-time father confessor was wise beyond his generation.

The aim should be the same in the realm of mind as in the realm of body—to direct the natural defenses of the organism. The possibilities here are quite as great as in the other departments of medicine for not only may it be made possible to direct the natural forces, but as the public health officer can so regulate conditions as to prevent infection, why cannot the same principles be applied to the educator to so form the mind as to do away, in part at least, with the possibilities or probabilities of certain kinds of conflict? The scheme is an ambitious one, but we are justified in dreaming of the possibilities when a new outlook is opened to us. When Franklin drew the spark from the clouds he could have had no possible conception that within a century that same force would be generated by mammoth dynamos and sent miles over the surface of copper strands to turn the ponderous wheels of factories employing thousands of human beings. Let us dream if we will, but let us not forget and consign to oblivion.

I shall not try to tell you what has been accomplished in this direction further than to say in passing that a form of treatment has been outlined (Chapter VII), based upon this theory which bids fair to produce results otherwise unattainable. The fundamental principle in this treatment is absolute honesty with one's

self. Many of the difficulties, such as I have been discussing, come about from a failure to frankly face situations with a resulting effort at self-deception. The first requisite of navigation is a compass. To insist upon seeing things as they are not—self-deception—is as if the navigator expected to make a certain port to the east by steering west. One must know clearly where he is going otherwise the means he uses to get there are more apt to be ineffectual than not. We have learned that much may be accomplished by getting the patient to honestly probe his own desires and motives and by getting back to first principles, as it were, he can get hold again of the lost threads and so reassemble the tangled network of his personality. He can so be given an opportunity to begin afresh with a clean record and try again from this new vantage ground the problem of adjustment.

The careful study of individual cases, particularly with a view to determine the cause of the breakdown, has given a new impetus to the study of character. Although not a very great deal of progress has been made in this direction, owing to the extreme complexity of the subject, still the problem has been fairly well defined. We already feel that there are certain types of character that portend danger to the individual possessing them and it is our aim, as far as possible, in dealing with the insane, to go back in the history of the individual, previous to the development of the psychosis, and endeavor to analyze the character make-up and determine the factors that led to the break. We hope in this way to accumulate that sort of information that will enable us to see the danger ahead and teach us the means of averting it.

A cramming of the mind with information is not education. Education should be a process both of unfolding and development. Certain habits of mind should be fostered, others need to be discouraged, to the end not only of bringing out all the latent faculties, of developing the best that lies within the individual but more important still of developing a properly balanced structure that will not be forced out of equilibrium by the first breath of opposition.

We have already learned to study the imbecile to determine his mental make-up and how he must be approached, what avenue offers the greatest prospect of success, if we would develop his faculties still further. In the same way, though the problem is vastly more difficult, I believe it will be possible to study those children who present certain danger signals and so outline their education as to bolster up the weak points and perhaps prevent hopeless disaster in the future.

Such a purpose is, I am sure, a worthy one and falls in line with the great general principles of preventive medicine.

One of the inquiries we always make of a soldier or sailor boy when he is admitted to the Government Hospital for the Insane is as to the number of summary courts-martial he has had. This is the simplest and most practical sign of the amount of difficulty he has had in adjusting to the service and the character of his conflicts with his new environment. In the same way I believe that every boy and girl in school or college who is persistently inefficient, as shown by their record in class, should be the subject of inquiry. It may, of course, only prove to be the outcropping of original sin but in practice I am sure it will be astonishing how often such an inquiry will develop something vastly more serious.

But to revert to the question of education. Many of the psychoses that later go to the making of the classes of chronic insane, criminals, paupers, prostitutes, tramps, and ne'er-do-wells begin early in life. They have their incipiency in the school-room and in the factory, they develop often under the very eyes of the teachers and, too, of the school and factory physicians. Our studies lead us to believe more and more that these psychoses are to a large extent preventable, yet they are only recognized when in full bloom and at a time when the possibility of applying preventive principles has long since past. They are not seen when in the making.

The reason for this failure to see the obvious is because of lack

of training of teachers and physicians in what to look for. We see what we have learned to look for, few of us see anything else.

To say nothing of the pedagogic aspects of this state of affairs and the training of teachers, we may well inquire into the reasons for the neglect of psychiatry by our medical colleges. It is true that in the past few years most of the medical colleges have added a course on mental medicine to their curriculum, but it usually consists only of a few didactic lectures, and almost always is considered as a sort of extra subject dealing with a department of medicine that the average practitioner will have little to do with. While interminable amounts of time are spent in discussing the appendix or the gall-bladder the mind is almost totally neglected, and yet after all the object of life is a contented, peaceful mind; in short, happiness to which the body is only secondary. The patient who consults a doctor does so because he is in pain, worried, unhappy, and yet pain, worry, and unhappiness are mental facts. What he really wants is peace of mind to which the doctor contributes by making well again a sick body without, as a rule, appearing to realize that a mind has been involved at any point in the proceeding. How much we hear in our medical schools of pathology and how little do we ever hear of mental hygiene—of what Seneca has called the "business of a happy life." In this respect our medical courses are open somewhat to the same criticism as the miser. They fix their attention too much upon the means to happiness and in doing so often miss the goal by not using those means to purchase the desired thing.

In all preparations for life there is no suggestion that there is anything to be learned about self-knowledge, self-mastery, no suggestion that there is any light to be shed upon the problems that arise within one's self, that it is possible to direct the forces of our inner conflicts. We are not taught how to curb the hot bursts of passion by passing them in review under the scrutiny of the intellect nor how to compensate for the sorrows of life by their sublimation through newly awakened interests. All these things

are left to mere chance. We know much of the efficiency of engines under various loads and thought and money unlimited have been spent upon making the necessary adjustments. But to the development of efficient mental mechanisms to meet the loads of adversity we devote hardly a passing thought.

Incipient mental cases in the community could be reached if a regular dispensary service were established as in other departments of medicine. Each municipal hospital should have its psychopathic ward to which patients could be admitted with no further preliminaries than are needed for admitting a patient to the general wards with, for example, a pneumonia or a broken leg. Each community should have also an after-care society for the purpose of caring for patients discharged from hospitals for the insane and by helpful instruction and otherwise attempt to establish them in the community—and prevent a recurrence of those conditions which before led to the mental breakdown.

A law was passed at the last session of the New York legislature that should be of interest. It provides for taking out of the hands of the poor authorities the care of the insane previous to commitment and putting it into the hands of the health officer. This is surely a step in the right direction. Not only are the insane cared for by the poor officers in many localities but quite as frequently by the police. I will not attempt at this time to dwell upon the abuses that have resulted as a consequence but only emphasize the fact that the problem of insanity is a medical one from beginning to end and that it should be in the hands of medical men only. The segregation of an insane person should be considered as a quarantine measure and not dealt with from the standpoint of criminal law. When this is done, when the problem of insanity is definitely turned over to the medical profession it will not be long before the value of preventive principles will be recognized and efforts made to put them in effect.

The practical things then that may be done at once in any community are these:

1. The securing of legislation that places the responsibility for the care of the insane previous to commitment in the local health office.

2. Every city of 100,000 inhabitants, or over, should have a psychopathic ward connected with its municipal hospital which is as accessible for the mental case as the other wards are for general medical and surgical cases. This ward should have an out-patient department.

3. The organization of an after-care society to assist persons who have been discharged from a hospital for the insane to get on their feet and to point out to them ways of avoiding the conditions which led to their breakdown.

4. The passage of adequate laws for the control of the labor of women and children.

5. Popular education. By the use of this term I am not merely dealing in a glittering generality that may mean nothing or everything. We have in this country nearly two hundred state hospitals for the care of the insane. These hospitals, each one of them, should be a center of information for the community in which it exists and its medical officers should use their position to spread information about mental disorders. The superintendent, or a member of the staff, should deliver one or more popular lectures each winter to which the public are invited. Much might be accomplished in this way if all hospitals would do this.

6. Field work from the state hospitals and psychopathic wards as centers to study conditions under which insanity has developed, to furnish assistance to the hospital in dealing with its patients, and to coöperate with the after-care society.

7. More liberal support by city and state of scientific research work in this field, especially along the lines of etiology and prophylaxis.

In this connection it may be of interest to know that in 1906 there was organized at Milan an international committee for the study of the causes and the prophylaxis of mental disorders. It

is the object of this committee to form an international institute for the study of the causes and prophylaxis of mental disorders and the King of Italy has consented to become the patron of this institute. Nineteen countries sent official delegates to this committee, but as yet no one of them has made any appropriation to enable the work of the committee to be carried forward.

The possibilities of the application of preventive principles in mental medicine are as broad as the multiplicity of human activities, as deep as the human soul. It has its medical, sociological, economic, legislative, pedagogic and humanistic aspects. Of prime importance, however, is the recognition of the problem and to this end no one thing is more important, to my mind, than the inclusion in our medical curricula of a course in mental medicine that shall not be an unimportant secondary affair, but shall be on a par in extent and importance at least with the course in practice.

Twenty-five years ago a claim for the exaltation of mental medicine to a position of such importance might well have been criticised as unwarranted, but since then no department of medicine has advanced more rapidly or attracted a relatively larger number of able students. The advances in this field and the cognate subjects fully warrant such a claim. There is now such a mass of well established data in general psychology, child psychology, pedagogy, psychopathology, and the anatomy and physiology of the central nervous organs as to make it quite impossible much longer to resist the claim of mental medicine to its proper place in the medical curriculum and when that time comes the mind will be in a fair way to attract as much attention from the devotees of public health as does now the subject of infectious diseases. We will have learned that a healthy body is of no use to the individual or to society unless there dwells within a healthy mind. The maxim "Mens sana in corpore sano" will still be true but in a sense amplified and vitalized.

J. HOLZER
BINDER
BOSTON, MASS.